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INTRODUCTION

The Eleventh Forum of the Linguistic Association of Canada and the United States was held at Cornell University from August 12 through 16, 1984. The Cornell Conference-Centre's extremely efficient organizational facilities smoothed the way for a successful conference, with participants from North America, Europe, and the People's Republic of China. The weather coöperated negatively, by being hot and rainy, thereby rendering the air-conditioned lecture-room the most agreeable place to be.

As in previous years, the contents of the Forum papers varied extensively, with an encouraging increase in the number of data-based contributions. Historical linguistics and applied linguistics are also becoming more prominent among the range of topics treated. I have arranged the fifty-one papers under the traditional headings, into which they seemed to fit more or less comfortably.

Ithaca, N. Y.
November, 1984

Robert A. Hall, Jr.

I

SPECIAL LECTURES

1984 PRESIDENTIAL ADDRESS

DESCRIPTIVE PROCESS

Sydney M. Lamb
Rice University

On this occasion we are celebrating the tenth anniversary of the founding of LACUS and the First LACUS Forum. It is thus also the tenth anniversary of the paper I gave at that Forum, to which I now intend to add a sequel.

In 1974, shortly before the first LACUS Forum, I got a phone call from Adam Makkai, who said that he and Peter Reich and a few other people were planning on setting up a new linguistics organization and that it was going to have annual meetings and to publish the proceedings, and it would have a journal, and so on. And I must confess that I said, "Adam, don't you think we already have too many linguistic societies and too many journals?" But he went ahead, he and Valerie and Peter and the others, Bob Di Pietro and Jean-Luc Garneau and Peter Maher and Fred Peng. And let me now say on this 10th anniversary that I'm very glad they did, and I'm grateful, as I think we all are, for the immense amount of work that Adam and Valerie have done over the years to keep this thing going.

Adam was kind enough in spite of what I had said to invite me to give a lecture at the first Lacus Forum, and I chose to speak on a theme I had used ten years before that date. You see, in 1964 I had given a paper at the Georgetown Roundtable, "On Alternation, Realization, Transformation and Stratification" [1], which treated the theme of process or mutational description and the alternative means of description based on the notion of realization (which of course was not new with me). I thought in 1964 that the arguments in that paper against the use of a process metaphor to describe alternation were overwhelmingly convincing and that it would therefore be unnecessary to ever say anything further on the subject. In fact, it was just a short time before I gave that paper that I met Noam Chomsky and we were having a little conversation and I guess I mentioned that I was going to be giving a paper in Georgetown in a couple of weeks. He asked me what it was about and I felt a little bit guilty telling him about it because I knew it was going to destroy his theory of language.

Ten years later, at the time of the First LACUS Forum, it was apparent that there were many linguists who had remained unconvinced about the arguments of 1964 and that more needed to be

said on the subject of process description. I therefore decided to revisit the topic. I gave some further arguments against the use of the process metaphor and attempted to show that process description is not just unrealistic nor just a harmless metaphor but that it has rather extensive unfortunate consequences for the overall view of linguistic structure of those who adhere to it, as well as for their ability to describe and explain the actual, real linguistic processes, particularly the processes of speaking and understanding and those of linguistic change. As some of you may recall who were here that evening ten years ago (not here of course but at Lake Forest College), that paper was entitled "Mutations and Relations" [2].

Well, now it is 1984. It is the 10th anniversary of the First LACUS Forum and of my lecture at that Forum and the 20th anniversary of that 1964 paper. (And I might mention also that this year marks the 20th anniversary of my first meeting with Adam Makkai, upon my arrival at Yale while he was there writing his dissertation.) I have chosen to keep the tradition alive by revisiting the topic once again.

In my paper "Mutations and Relations", I started out with a quotation from Baudouin de Courtenay on the same topic. I wish I could tell you that that passage from Baudouin de Courtenay was published in 1884, or even 1894. I have to say though, that it was 1895. But 1894 is no doubt the year it was written! The statement of Baudouin is: "What is ordinarily called phonetic change or transformation of one sound into another is, from an objective point of view, only co-existence or alternation" [3].

This time I'm using as my title the term I learned from my teacher Murray B. Emeneau, who clearly explained to us, his students, that this way of talking about alternation is just "descriptive process" and not a real process at all. He also referred, if I recall correctly, to a passage in Bloomfield's Language [4] which is concerned with 'knife, mouth, house' and the plurals 'knives, mouths, houses'. Bloomfield says (page 213),

> We can describe the peculiarity of these plurals by saying that the final [f, θ, s] of the underlying singular is replaced by [v, ð, z] before the bound form is added. The word "before" in this statement means that the alternant of the bound form is the one appropriate to the substituted sound; thus, the plural of 'knife' adds not [-s], but [-z]: "first" the [-f] is replaced by [-v], and "then" the appropriate alternant [-z] is added. The terms "before, after, first, then," and so on, in such statements, tell the descriptive order. The actual sequence of constituents, and their structural order...are part of the language, but the descriptive

> order of grammatical features is a fiction and results simply from our method of describing the forms; it goes without saying, for instance, that the speaker who says 'knives' does not "first" replace [f] by [v] and then add [-z], but merely utters a form (knives), which in certain features resembles and in certain features differs from a certain other form (namely, 'knife').

As I said a moment ago, Emeneau referred to this metaphoric use of process to describe what is really alternation as 'descriptive process' and he thought, as many people did, that it was perfectly okay to go ahead and use process statements knowing that they were metaphorical; and that if one just puts in a caveat, that this isn't really process but just a metaphor, which we can call descriptive process, then it will be harmless.

Ten years ago I attempted to show that it's not harmless, but I don't intend to repeat those arguments here. Rather, I have come to the conclusion, after observing linguists continuing the use of process description as if those two papers had never been written, that there is more to the problem than meets the eye. I now understand, I think, why it was futile to hope in 1964 and in 1974 that what I said would have any great influence. And the reason turns out to be interesting in what it reveals about the nature of language.

Those two earlier papers in this series tried to show that we need to go farther than Bloomfield. It does not work to use process description of synchronic relations and then to say on the side we don't really mean that it is a process, as Bloomfield did. Bloomfield evidently took descriptive process to be a harmless metaphor as did Murray Emeneau. That, I think, was a mistake. Too many people, not just students of linguistics but also professional linguists, have been misled by process description. Many have gone beyond the metaphor stage altogether in recent years, and have supposed that these relations really are processes. But as I say, I'm not going to repeat those arguments.

Rather, I would like to say a few words on each of three related topics. First a little about harmful vs. harmless metaphors. Then one further argument against mutational description that did not appear in either of the two earlier papers. And then I will go on to my main theme: I want to look into the question of why it is that process description is so tenacious; why untrained students automatically speak in process terms even before any teacher has told them what to do; and why so many professional linguists continue to use the process metaphor even when they know, more or less, that it's unrealistic. In other words, what is it that makes Descriptive Process such a formidable opponent?

Now, first on the topic of harmless metaphors and harmful ones. Perhaps we can define a harmful metaphor as one that makes people forget that it is a metaphor. They begin to believe that it's real. Either consciously or subconsciously, they tend to take it literally rather than metaphorically. Such is the case, I am arguing, for descriptive process, since many linguists do think that it really is process. Some will say, if you ask them, that they are aware that it's only a metaphor, but it is apparent that it has had a subconscious influence on their thinking when we find them speaking of transformations and morphophonemic alternations as mental processes; that is, as processes that have some kind of real existence in people's minds.

One of the best forms of evidence that people are somehow being subconsciously influenced, that they take the metaphor seriously, is the hypercorrection that occurs when people decide (perhaps only to avoid offending me or some other opponent of descriptive process) that they will agree to stop using process description. Thus some people, upon learning that one of their teachers (perhaps Professor Lamb) is opposed to the use of process description, will start saying that, for example, Proto-Indo-European *p is realized in Proto-Germanic as *f. The statement shows you right away that they haven't understood the point. They think that you just have to translate any process statement into a realizational formula. They have not yet recognized the distinction between process and realization. For reasons of this kind I think the process metaphor really is a harmful one.

On the other hand, we have the harmless metaphor, the one which we can go ahead and use because nobody is taken in by it. The harmless metaphor is illustrated by statements that refer to one stratum of linguistic structure as higher than another. I doubt (I hope and pray that this is right!) that anyone thinks, when we say that something is on a higher stratum, that we are talking about anything topological or geographical. We're just saying that it's at a level of abstraction farther removed from the (phonetic) surface.

Now, one point I will repeat from an earlier paper is the distinction between real process and pseudo-process, if we may now use that term. There are of course real processes in language. As linguists, we are interested in them and in trying to account for them, and we therefore don't object for a moment to talking about them, and in fact we do talk about them with great interest, and in doing do we naturally use process terminology. Thus there are of course the diachronic processes of linguistic change. There are also what we might call the micro-diachronic processes; that is, the processes by which we add new vocabulary items and new syntactic devices in the course of using our languages. In relational network notation these involve adding new connections in the network during the process of using language on a day to day basis. And then of course there are the very important processes

of speaking and understanding, the processes of language use that are so obvious.

One of the unfortunate consequences of descriptive process is that if process terminology is used for talking about synchronic structural relationships, it is more difficult to understand and describe the real processes. Let me repeat one brief passage from 'Mutations and Relations': "Ironically, the mutationists, who might be thought to be quite interested in processes, are the least able to deal with these real processes, simply because they have their linguistic information hopelessly entangled with fictitious processes." Thus we try to avoid descriptive process not because we don't like process, but because, on the contrary, we do like process and because we want to describe the real processes.

Now, my one further argument against mutational description to add to those of the earlier papers. I'll take as my example the case of /f/ and /v/ in 'knives' that was used by Bloomfield. Of course we realize that what is going on here really involves a phonological component and not the entire segments /f/ and /v/. It's just a component of voicing, so if we describe the alternation componentially, we can cover the knife:knives, house:houses, etc., relationship all in one rule. But just for ease of talking about it, I will speak in terms of /f/ and /v/. I would like to point out something that may not be altogether apparent at first glance. Let us suppose that we have the linguistic system, in which we will now perform the mutation in order to be able to utter the word 'knives'. We will take the unit 'knife' and, since it's going to occur in the plural, we must replace the /f/ by a /v/. But what if the next time we want to utter that word it comes up in the singular? We are in trouble, since we have replaced the /f/ with a /v/. Even if we want to use it in the plural we are in trouble---we can't replace the /f/ by /v/ any more, since it is already /v/---the /f/ isn't there any more. And so, in order for the system to work, as soon as we have replaced the /f/ by a /v/ it must somehow magically revert to /f/ or I won't ever be able to use that word again. Now, you see, this nonsensical situation is altogether different from what happens when you have a diachronic process of linguistic change. In that case there is no such magical reversion to the former state. Consider for example the case in which a /p/ some years ago became affricated to /pf/ in German, as in 'Pfennig' (compare English 'penny'). Now when that /p/ changed to /pf/ it stayed /pf/. It's not necessary for the speaker of German to start with /p/ and replace it by /pf/ every time he uses the word 'Pfennig'. It stays there. And it will stay there unless and until some further change comes along to change it. Diachronic process, as studied in historical linguistics, is indeed quite a different thing from descriptive process.

Now, I must say in defense of the generative phonologists, who are the current champions of descriptive process, that this argument does not apply to them in the particular process formulation they use, since when they replace an /f/ by a /v/ they are doing it not in the linguistic system but in a representation that has been provided by some previous rules. It's only in that representation that the [f] is changed to a [v] (the generative phonologists tend also to use phonetic brackets, having allowed the use of the process metaphor to obscure even the existence of the phonemic stratum); and the next time the word 'knife' is uttered they're starting out with a whole new sequence of 'generation', and so the [f] will be there again. Nevertheless, the argument may apply to them at a subconscious level, because those same phonologists can be seen to have conflated diachronic and synchronic phenomena rather badly in their descriptions.

So much for arguments against descriptive process. For the younger generation not familiar with the literature, I should point out that the campaign against process description did not begin with me. I took up the cause from people like Bernard Bloch who were active in the campaign long before I came on the scene, and who was in turn just one of a long line going back all the way to Baudouin de Courtenay.

Let us now turn to our major theme. It is a two part question: First, why do people naturally, as beginners, take to the process metaphor from the very outset? I must say that's what I did as a beginning graduate student when I was in Murray Emeneau's class in morphology. I still have papers I wrote in that class, and sure enough, before Emeneau had given us formulas to use, there I was in my first problems using the process metaphor. And I find, after some years of teaching linguistics, that that is what students naturally do. Why is it that they invariably start out thinking of alternation in terms of process? The second part of the question is: Why do some professional linguists tenaciously cling to this process metaphor despite its easily demonstrable lack of correspondence with reality? Or, to put it another way, why does the process metaphor, even when admitted to be metaphor, nevertheless have the subconscious effect upon the thinking of linguists that we have observed? I find the question interesting not so much in itself but because the line of investigation leading to an answer leads also to an interesting insight into the nature of language.

We might begin the search for answers to these two questions by invoking some version of the so-called Whorf hypothesis. Perhaps the English language is so constituted that it tends to lead people to describe relations as if they were processes. We certainly do find that to be the case, and we can see the English language taking relations of many kinds and describing them as processes. You will recall the paper by Elisa Asp at this LACUS

Forum which uses the example 'the path runs to the shore'. But, of course when Baudouin de Courtenay was pointing to the same propensity of linguists in his paper of 1895, he was surely thinking not of English-speaking linguists but of speakers of other languages, doubtless including Russian, Polish, and German. Perhaps, then, the trouble lies in the structure of standard Average European, as Whorf called it, and it might be that speakers of Hopi, Navajo, or Chinese wouldn't make that same mistake if they were developing linguistics. But I think that's not the case. I think that a closer look will reveal that it's not a matter of linguistic relativity.

I would like to suggest that our problem stems from the nature of language itself, and that it will therefore be manifested among speakers of all languages. Perhaps it is an inherent property of language that, for the sake of serving us as well as possible, in order for it to be efficient in its function of being language, it must hide its basic nature from those who use it, and of course that would include linguists. But the linguist must finally make that extra effort, as the investigator of language itself, to look beyond the subterfuge.

As I pointed out ten years ago in "Mutations and Relations", the relational treatment of alternation entails the recognition of an additional element not needed (but sometimes redundantly included anyway) in the process treatment. In the case of morphophonemic alternation that additional element is the morphophoneme. In the case of syntactic alternations, the additional entity is the representation in 'deep grammar' (to use the term of Hockett 1958 [5]). For example, taking again the case of 'knives', in the non-mutational treatment we have the phoneme /f/ and the phoneme /v/ and in addition we have a third entity, which we can call the morphophoneme, realized sometimes as /f/ and sometimes as /v/. Now before you start wondering about multiplying entities, let me point out that everything in the phonological structure, including every morphophoneme, is relational and not an object (as Professor Pike mentioned in his lecture elsewhere in this LACUS Forum); so there is no object here where we are identifying this 'morphophoneme'. This 'morphophoneme' is just a choice point in the network at which the speaker makes the choice of either /f/ or /v/. If the plural morpheme follows, we choose the /v/ and if it doesn't we choose the /f/; but there is no object at this choice point. That which we call the morphohoneme, as interpreted according to the relational viewpoint, is just a point in the relational network at which a choice is made.

But as you can see, we need to recognize the existence of that choice point, which must be at a 'higher' (that is, more abstract) level of the structure than the /f/ and the /v/, since in the process of speaking it must necessarily be encountered before either /f/ or /v/ is chosen. In the process description, on the other hand, we don't need such a choice point, since the process

model gets the /v/ not from such a choice point but from the /f/. Now some people who use process decription use the morphophoneme anyway, but they don't have to, as in that model it is redundant. That really is a case of adding excess baggage to the descriptive equipment.

And similarly, a grammarian who uses transformations does not have to have deep structures in addition. You can have deep structures and let them be realized as surface structures or you can use transformations in the way Chomsky did in the original version in 1957 and convert what are essentially surface forms to other surface forms, a pure process description. But if you have both deep structures and transformations, you're being redundant; that is to say, you are adding excess baggage.

Now we come to the answer to the two-part question under consideration. How is it that language resists our coming to the realizational form of description? That resistance is simply a result of the fact that recognizing that extra entity, in this case a morphophoneme, entails having an expression for it, a way of symbolizing it or speaking about it. Otherwise we can't communicate about it. On the other hand, with the process description we have no such problem. We already have the symbol for /f/, the source of /v/ in this mode of description; and we already have process terminology in the language. So all we have to do is say that the /f/ changes to a /v/. It's not necessary for us to invent any new names or symbols.

That's part of the basic conflict that we have to deal with, brought about by language itself. There are actually two properties of language involved here. The first we might call the 'flexibility' of language. Language, by its nature, loves metaphor, and it loves vagueness. The reason is that statements can be more economical if they are either metaphorical or vague. Metaphor allows us to use equipment that is already there when we encounter new situations we want to talk about. In general, we use only as much precision as is absolutely necessary. This point is well brought out in the very interesting paper by Michael Hoey in this LACUS Forum. Counteracting vagueness---that is to say, becoming more specific---requires using more expression to narrow the content; and the alternative to metaphor is to create a new lexeme---usually by putting existing morphemes together by means of an existing morpholoical construction. This micro-diachronic process is used frequently, but language tends to resist it, for two reasons. The first is just the well-known principle of least effort. The recognition of a new concept and the invention of a new lexeme to go with it takes more effort than the use of equipment already there. Language doesn't like to invent new names. It permits us to do so but there's a little extra effort required. (Of course, it is really we, not language itself, who resist the extra effort.) The second reason is that if the code itself changes too much and too often, there is an

interference with its communicative effectiveness. Thus language tends to resist the recognition of a previously unrecognized element because such recognition would generally involve talking about it, and that would require a new lexeme or else some complex circumlocution. In this case, we could avoid identifying the morphophonemic choice point directly by a circumlocution such as, "we get /v/ where we would otherwise expect to find /f/, if the plural morpheme follows". This is simply more difficult to say, despite its greater accuracy (rather, because of its greater accuracy), than "/f/ changes to /v/ if the plural morpheme follows".

Now I said there were two properties of language responsible for its resistance to allowing us to talk about its structure realistically. The first, which I have just been talking about, I have called 'flexibility'. The second we might call 'transparency': Language tends especially to resist naming elements within itself. Its function rather is to name things which are outside of it. In this respect, language is somewhat like air. The air is the medium we have for transmitting spoken messages from one person to another. But if the air had noise of its own, that would interfere with its function. Air is also a medium through which we see things. Now at short distances, the air is invisible, it is quite transparent, and it therefore serves very well as a medium through which we see. Similarly, language is the medium which functions primarily to relate sounds to things and events and so on which are outside of it. So the language itself, all of that structure of which it is comprised, must remain as transparent as possible. As a consequence, ordinary people remain quite innocent about the presence of linguistic structure. Those who teach introductory linguistics see this innocence over and over. It is also one of the reasons why, when people hear that there is such a thing as linguistics, they have no idea what it might be. The structure of language tends to make itself invisible.

I'm going to elaborate on that point in a minute, but first I come to the section of my talk called "A practical conclusion for the teacher of linguistics", or "Living with the problem". Having recognized that what we have been attempting to overcome is of formidable proportions, perhaps we have to concede that the effort to get students in an introductory class to understand the point about mutations vs. relations is doomed to failure. Maybe we ought just to abandon the attempt at this level of instruction, and go ahead and let students use the process metaphor since it makes it easier to talk about other things which may be of greater interest and usefulness to the students. In teaching foreign languages especially it may be better to use the metaphor because the student is usually not interested in linguistic theory at all. The student just wants to learn to speak the language. So, after these twenty years I am willing to concede to that extent. But students of linguistics, or at least the

advanced students, I still insist, must be shown that the process metaphor is a metaphor, and they should learn about the actual structural relations which it roughly describes.

I'd like to conclude by taking one further step along this path which runs somewhat unexpectedly from the consideration of descriptive process to appreciation of the nature of language. So far, it has led to the observation of two basic properties which I have called 'flexibility' and 'transparency'. Both are, of course, relative, not absolute. If I were to indulge here in a bit of process metaphor, I might call them tendencies. What might we observe if we go along a little further on this path? I'd like to suggest that we might find further consequences of the transparency principle, one of which at least is rather important, if my interpretation is valid.

According to the principle of transparency, language fulfills its primary functions best by being as transparent as possible. It provides connections between speech sounds (or written marks on a surface) and things, events, and so forth. Both the sounds on the one hand and the things, events and so forth on the other hand, are outside the language. What is in the language is connection, a large set of connections from sounds to things and events and so on, and especially to intermediate points along the way. It is inherently relational. The things we talk about are not part of language, rather they are connected to language. But notice that the transparency of language makes us tend to equate the speech sounds with the objects. You can see people doing this kind of thing all the time. People also, including even some linguists, recognize only with difficulty that there are such things as concepts and other abstract elements within the linguistic structure that intervene between the sounds and the objects. This is part of the transparency of language. Language is transparent simply because it wants us, as it were, to be able to talk efficiently about those things, events, and so forth; but being transparent of course means hiding itself from us, just as the air "makes itself" invisible and silent.

Now, if we look into the history of linguistics we can see that the study of language started quite naturally with what was easy to observe, namely things external to language itself: Sounds and texts. Attempts to get inside language have been fraught with difficulty and have come relatively late. We recall, for example, what a struggle it was over several decades for European and American linguists to arrive at a clear understanding of the phoneme. Phonetics preceded phonemics in its development not by any historical accident but as an instance of the transparency principle. And even when the phoneme was finally understood, more or less, that understanding was not clear enough to prevent it from being overthrown in the minds of many by the specious arguments of Chomsky and Halle [6].

Perhaps even more important as an object of study than speech sounds has been the text, including oral text (but generally studied after having been transcribed to written form). The text is of course a product or manifestation of language, not the language itself. Yet texts have been the primary object of study by linguists. Now texts, as we all know, are essentially linear, they are combinations of units in which each unit has a linear position before one unit (except of course at the end) and after another (except at the beginning). In other words, the text is one-dimensional, and I'm inclined to suspect that investigators, by virtue of a perceptual cousin of the Whorf hypothesis, have tended toward a one dimensional, or what we might call a horizontal, approach to language, while tending to overlook what we might call the vertical dimension, simply because of the linearity of texts.

In approaching the notions of the horizontal and the vertical points of view, I would like to say a little about my predecessors whose explorations cleared the pathways for mine. In my learning about the structure of language I was of course heavily influenced by my teachers at the University of California, Murray Emeneau and Mary Haas and Francis Whitfield and others; but I was also greatly influenced by other linguists through their writings, and the two that stand out most clearly in my mind were Louis Hjelmslev and Charles F. Hockett. And let me say something while I'm here at Cornell. We know the saying, "A prophet is without honor in his own country," but I'm not from this country, I'm from another one, and I want to tell the people of Cornell University that you have a prophet here in Charles F. Hockett. But now that I've said that, I'm going to criticize both Hockett and Hjelmslev.

The two articles by Hockett that I remember most clearly as having contributed to my understanding of language when I was a graduate student are "Problems in Morphemic Analysis" [7], and "Two Models of Grammatical Description" [8], which I still try to get all of my graduate students to read. But now, my criticism. The latter article treated the Item-and-Arrangement model and the Item-and-process model (and we remember that it also mentioned the Word-and-Paradigm model, but didn't go into it in detail). All three of those models, I would now like to say, are versions of the same basic mistake. They are all varieties of a horizontal approach to linguistic structure, and they thereby tend to neglect the vertical dimension.

The horizontal approach involves looking at the relationships of units to other units of the same level. That's what one is doing both in the Item-and-arrangement model and in Item-and-process. Talking about combinations of morphemes is talking about relationships of items to other items of the same level. That is also what one does in the more traditional Word-and-Paradigm approach, which may now be contrasted with the vertical approach to the

study of inflection so aptly undertaken in the paper of Saul Levin in this LACUS Forum.

Thus language, by virtue of its primary functions, first resists our attempts as linguists to examine its structure at all, and then when we do finally succeed in starting to investigate that structure, it tends to lead us to a horizontal, one-dimensional examination.

By contrast, with the vertical approach we are operating in the semiotic dimension. We are talking about the relationship between form and meaning, between expression and content. A language really consists of a large collection of these vertical or semiotic units, which are links between communicative functions or meanings and the means of expressing them. Surely that is what a language really is 'first and foremost' (to use an expression of Hjelmslev [9]), rather than relations among units at each of two or three or more levels.

Now let me criticize Hjelmslev a little. In his "Prolegomena to a Theory of Language" [9] there is a very interesting section (section 12) in which he talks about signs. He says that it seems to be obvious at first that a language is a system of signs as indeed Saussure had said it was; and then he goes into an examination of this notion and two or three pages later he concludes that a language is 'first and foremost' not a system of signs after all. Rather, it has two planes (here is the horizontal metaphor again) on each of which we have units occuring in various combinatory relationships. (Perhaps at Hjelmslev's time it was necessary to turn greater attention to the horizontal dimension; in any case it now seems necessary to turn greater attention to the vertical.)

I would like also to critizize my own earlier work, since I too have been emphasizing the horizontal approach until recently. You can see it in the Outline of Stratificational Grammar [10], with its emphasis on patterns and stratal systems. That type of presentation tends to make one look at the relationships horizontally even when they are not essentially horizontal. And the tactic pattern as treated in the Outline is almost entirely horizontal. The vertical dimension was present in stratificational grammar more than in some earlier approaches, but greater emphasis was still being given to the horizontal.

One more aspect of the transparency of language is the great resistance on the part of many linguists and philosophers to recognizing the existence of such things as concepts. Concepts tend to be transparent possibly even more than less abstract elements in linguistic structure. Language needs, as it were, to keep them as transparent as possible, to make people equate meanings with things, in order to maximize its communicative effectiveness. It is perhaps this property of language that has

hidden the cogency of the so-called Whorf hypothesis from its critics.

Now, to take the vertical approach is to look at language as 'first and foremost' a system of signs after all, and to take that notion seriously. We all know that Saussure said that a language is a system of signs, but if we look at what he does with that notion, we find not very much. He left the elaboration to those who would come later. Considering the language to be a system of signs and then seriously following through on that notion leads to a quite different view of language than that which has been customary during most of the history of structural linguistics. If the language is seen as 'first and foremost' a system of signs, then the intrastratal relationships are secondary rather than primary. It is perhaps especially in the area of syntax that we get different results. Instead of seeing a syntax as an almost unfathomably complex conglomerate, we see it as a collection of individual units, syntactic constructions, each of which is learned as a unit along with its function or meaning, just as the lexemes of a language are learned unit by unit including their meanings. (I once heard a linguist propose that, contrary to the usual view of language development that words were learned first, then their meanings, it was meanings (i.e.,concepts) that were learned first, then the means of expressing them. The latter view is actually as naive as the former; both are horizontal. Concepts and the means of expressing them are usually learned together; signifier and signified are each other's raison d'etre.)

I would like to suggest that the vertical, or semiotic, viewpoint makes the language look a little more like a colony of bees, to adopt the metaphor that Michael Hoey uses in his paper on the law in this LACUS Forum. Let me try to get this point across by giving you a horizontally oriented description of a colony of bees. You may or may not know that a typical hive has about 70,000 bees in it, of which perhaps 50,000 are in the adult stage. That's preliminary background information. Now, let us take a horizontal approach to a description: Well, here we seem to have about 100,000 wings and we seem to have some 100,000 eyes and we have some 300,000 legs; and there appears to be some patterning here---we find that whenever there is a leg, there seems to be another in close proximity, and then also nearby we find two more pairs of legs; and so on.

I think perhaps a better metaphor is the forest. Let us indulge in a little horizontal description of the forest. We may start with the surface, in this case the surface of the ground. Here we find numerous leaves, many of them broad and many others long and thin; we might call them 'needles'. We also find some acorns and a few pinecones. And then we also find here and there a much larger more or less vertical object, somewhat cylindrical, which is attached at one end to the ground and which extends upward.

And then we have, perhaps from ten feet to forty feet above the surface of the ground, some leaves, usually occurring in groups. When you find find leaves, in other words, you tend to find many of them in the same area; but on the other hand, in other areas we find large groupings of the long needles rather like those we observed earlier lying on the ground. And then we also find some pinecones up at that higher level and also some acorns. And we also find squirrels moving around in the area. There are things we might call branches, on which the squirrels tend to be found, along with either the broad leaves or the clusters of needles. That's the horizontal approach. There is also a version of the horizontal approach which refuses to look up at the higher level (where the branches etc. are) and supposes that a description can be complete if it covers only that which is on the surface of the ground.

In the vertical approach, one looks at the forest, and what does one see? Trees! Each tree extends vertically into the ground at one end and at the other end we find branches with leaves connected to them. That's the metaphor that corresponds to seeing a language as a system of signs.

Now, one further reference to Michael Hoey's paper. He talked about the legal document as being somewhat like a colony of bees, and Professor Gleason suggested in the discussion after the paper that it would be nice if grammars could be written that way. I wholeheartedly agree, and I would like to suggest that the way to do so is to describe the language as a system of signs. In relational network terms, we could call it a system of nections, where each nection, a small fragment of network having a definite structure, is a more or less self-contained unit. Of course, each nection has connections to other nections, and in this respect a language does differ significantly from the forest. Nections are rather like trees, in that both have a middle section, with branching out in both directions from that center. In the case of the tree, the center is the trunk and the branches in the lower direction are the roots. But in the case of language, if we may for the moment refer to the nections as trees, some of these trees have their roots not in the ground but rather in the branches of other trees, and some trees have their roots connecting to whole classes of other trees. These correspond to the syntactic constructions.

What I'm getting at is that in the horizontal approach the elements of syntax are related one to another [11], while in the alternative for which I am arguing syntactic constructions are treated as linguistic signs. What syntax is really made up of is a set of individual syntactic constructions. Most of them are meaningful, and therefore a syntactic construction is really a linguistic sign that differs just moderately from linguistic signs of the usual type. These are the trees whose roots connect to whole classes of branches of other trees [12].

Returning now to our opening theme, descriptive process is also a symptom of the horizontal approach, in some respects even worse than the item-arrangement model, in that it uses a horizontal approach even in treating the relationship of realization, since it fails to recognize the more abstract element (for example, the morphophoneme as distinct from the alternating phonemes in the case of the phonological 'processes').

To conclude: Language, by its nature, because of its primary functions, necessarily hides itself from those who would investigate it, by making itself as invisible as possible. The propensity of observers of language, from beginning students to professional linguists, to use descriptive process in the treatment of alternation is a consequence of that property. Other horizontal descriptive techniques are additional symptoms. It is as if language has put obstacles in the way of our attempts to uncover its secrets. But if we go beyond annoyance at these obstacles to a sympathetic examination of why they are there, we see that their very presence is itself part of that long hidden secret which has been our goal.

References and Notes.

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3. Jan Baudouin de Courtenay, Versuch einer Theorie phonetischer Alternationen; ein Kapitel aus der Psychophonetik. Strassburg, 1895. English translation by Edward Stankiewicz, in A Baudouin de Courtenay Anthology, Indiana University Press, 1972.

4. L. Bloomfield, Language. Holt, 1933. The passage quoted is interesting from another point of view not treated in the body of the paper, namely the "ordering" of the two processes---the "change" of /f/ to /v/ must precede that of /s/ to /z/. This ordering turns out to be automatically preserved in the correct

realizational treatment of this phenomenon, since the alternation of [s] and [z] is actually subphonemic, not morphophonemic as traditionally supposed. There is no contrast in voicing of obstruents in English in the environment of a preceding obstruent. For further discussion, see my 'Prolegomena to a theory of phonology', Language, 1966 (reprinted in Makkai and Lockwood, editors, Readings in Stratificational Linguistics, University of Alabama Press, 1973).

5. C. F. Hockett, A Course in Modern Linguistics. MacMillan, 1958.

6. See for example A. N. Chomsky, Current Issues in Linguistic Theory, Mouton (Janua Linguarum), 1964. For discussions and refutations of these arguments, see my Prolegomena to a Theory of Phonology, Language, 1966; Lamb and R. Vanderslice, On Thrashing Classical Phonemics, The Second LACUS Forum 1975; and Vanderslice, Autonomous phonology, phonemic overlap, and the red herring of invariance, in Agard, Kelley, Makkai, and Makkai, eds., Essays in Honor of Charles F. Hockett, Leiden:Brill, 1983.

7. C. F. Hockett, Problems of morphemic analysis. Language, 1947. Reprinted in M. Joos, editor, Readings in Linguistics.

8. C. F. Hockett, Two models of grammatical description. Word, 1954. Reprinted in M. Joos, editor, Readings in Linguistics.

9. L. Hjelmslev, Prolegomena to a Theory of Language (English translation by Francis J. Whitfield). Second English edition, University of Wisconsin Press, 1961. (Original edition published in Danish in 1943.)

10. S. Lamb, Outline of Stratificational Grammar. Georgetown University Press, 1966.

11. This is the usual way of treating syntax, but I find in Kenneth Pike's tagmeme another approach to the recognition of the forest as a collection of trees, since the tagmeme is a unit which combines content or function with a syntactic means of expression of that function.

12. This possibility is explored further in section 9.3 of my "Semiotics of Language and Culture", in Fawcett, Halliday, Lamb, and Makkai, eds., Semiotics of Culture and Language, London: Frances Pinter, 1984.

INAUGURAL LECTURE

TWENTIETH-CENTURY LINGUISTICS — WHENCE AND WHITHER?

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To the question posed in the title of this discussion, the obvious answer would be 'Out of the nineteenth century and into the twenty-first century.' Yet such a flippant answer would be silly, because it immediately raises the further question of what nineteenth-century linguistics was, and what — given the present situation — twenty-first-century linguistics may reasonably be expected to become. Concerning even the main currents of the study of language before 1900, there is no over-all agreement. For some decades after the publication of Pedersen (1931), his view was widely accepted, namely that the establishment of historical and comparative linguistics on a firm basis was the crowning achievement of that century. Previous centuries' work in abstract theory, descriptive (largely prescriptive) grammar, and even historical linguistics was often underestimated (as in, for example, Bloomfield [1933:ch. 1] and Robins [1951]). In recent years, considerable progress has been made in re-evaluating pre-1800 linguistics, so that we can now have a somewhat better-balanced view of nineteenth- and pre-nineteenth-century scholarship and its relation to current linguistics.

Unfortunately, however, there has also been, in recent decades, a great deal of distorted and biased portrayal of both the nineteenth and earlier centuries' accomplishments. Some of these misrepresentations are due to a desire to exalt certain scholars and the 'schools' which they have founded. In other instances, the distortions stem from an apparently felt need to disparage the immediate predecessors of some 'cynosure' (to use the term suggested by Hymes [ed., 1974:9-14]) or other.

The most notorious instance of such a 'cult of personality' (the term used by Anttila [1974]) in recent years has been that centred on A. N. Chomsky and the transformational-generative grammar of which he has been, if not the 'onlie begetter,' at least the prime promulgator.[1] There has been a great deal of loose talk about a 'Chomskyan revolution,' as in the panegyrics of Lyons (1970), Smith and Wilson (1979), and Newmeyer (1980). Many adherents of the Chomskyan school have manifested a remarkably schizophrenic psychology in their inaccessibiluty to rational discussion and argument.[2] At the same time, Chomsky himself and his followers have often indulged in unjustified disparagement of his immediate predecessors, particularly the so-called 'post-Bloomfieldian' group (cf. such protests as those of Lamb [1967] and myself [Hall 1969]).

Even more harmful to a balanced perspective is the very widespread view of Ferdinand de Saussure as 'the founder of modern linguistics' or the like,[3] based on his *Cours de linguistique générale* (1916). For many, Saussure has become almost a 'sacred cow,' whose oracular pronouncements (pardon the mixed metaphor!) are not to be attacked or even questioned in any way. As is well known (cf. especially Godel [1957]), the 1976 *Cours* was not by Saussure himself, but was put together after his death by three of his pupils, using not only their own but others' lecture-notes. The *Cours*, consequently, is by no means always a valid representation of Saussure's real views. Yet, based on the *Cours*, there has arisen a kind of *Vulgärsaussureanismus*, in which several basically rather questionable pseudo-Saussurean theories have been made into dogmas. These include the opposition of *langue* versus *parole*; that of synchronicity versus diachronicity; and the doctrine of *l'arbitraire du signe*. All of these have caused much fruitless spilling of ink, and have served as a basis for endless misunderstandings, of which perhaps the worst has been the total perversion indulged in by the French 'structuralist' and 'post-structuralist' literary schools and the 'Nouvelle Critique' centred on the journal *Tel Quel*.[4]

On this side of the Atlantic, it is not uncommon for Franz Boas to be referred to as 'the father of American linguistics.' In such a view, Boas' many worthy predecessors are neglected, e.g. John Wesley Powell and John R. Swanton in the study of Amerindian languages, Maurice Bloomfield in Indo-European, and, most important of all, William Dwight Whitney, arguably one of the greatest of all nineteenth-century linguists and certainly one of the three greatest American scholars in linguistics, together with Edward Sapir and Leonard Bloomfield. This is not to denigrate Boas' contribution, which, so far as general linguistics is concerned, lay chiefly in his important demonstration (in the Introduction to the *Handbook of American Indian Languages* [1911]) that the linguistic categories familiar to us from the Indo-European languages are by no means characteristic of languages not belonging to that family.

There have also been other distortions of the history of linguistics, aimed at discovering 'respectable' predecessors for one type of linguistic theory or another, no matter how *mal à propos*. The most notorious of these intellectual malapropisms in recent years has been Chomsky's *Cartesian Linguistics* (1966), in which the ideas of Arnauld and Lancelot, in their *Grammaire générale et raisonnée* (1660) were twisted so as to make them appear to be anticipations of the theories of transformational-generative grammar. As a matter of fact, the Port-Royal grammar was intended as a school-text, to introduce pupils on what we would now call the high-school-level to the basic notions of Latin and French grammar, as it was then conceived. The Messieurs de Port-Royal were able and intelligent men, and did an excellent job of what they set out to do. Chomsky's misrepresentations have been extensively criticised, especially by Aarsleff (1970, 1971).[5] Nevertheless, the

prestige of its author caused *Cartesian Linguistics* to receive undeserved attention and to be widely regarded as authoritative, thereby casting into the shade such far more meritorious studies as that of Donzé (1966) on Port-Royal.

Not only critical studies, but much first-hand work on language has been similarly cast into the shade by the 'cult of personality.' The most obvious of these instances is that of Leonard Bloomfield, whom many regard as the greatest linguistic scholar (American or European) of this century, but whose work has been the object of, first partisan obloquy in the 1960's, and then neglect in the 1970's and 1980's. To mention only some others who are no longer with us, an undeserved near-oblivion has fallen on the work of such outstanding scholars as Edgar H. Sturtevant, Carl Darling Buck and E. Adelaide Hahn in Indo-European; C. C. Fries, Martin Joos and Henry Lee Smith Jr. in English; Y. R. Chao and Bernard Bloch in Oriental languages; W. F. Twaddell in Germanic; and Urban T. Holmes Jr. in Romance. I could go on for several pages with such a list. In reality, the contribution of these and many other scholars was of major importance, and deserves a long over-due re-evaluation and recognition.

Now for the positive side of the picture. Clearly this is no place to attempt a complete portrayal of the development of the study of language over the past 2500 years (during which, cumulatively, far more was learned than in any period of merely 25 years). There are a number of histories of linguistics,[6] from which, taken all together, a reasonably good over-all idea can be obtained. Here, all that I can do is to point out certain major factors which have determined the main directions of the millennium which is now drawing to a close. At least two of these are related to the shift from orality to literacy, first in the use of hand-writing for the vernacular languages of Western Europe, and then in the development of printing (as pointed out most recently and effectively by Ong [1982]).

In the ancient Mediterranean world, writing was of course used in connection with Greek and Latin, and at least some of the other languages of that area. What proportion of the population was literate in classical times is not certain; probably it was not very great. We are in any case justified, it would seem, in considering that in the so-called 'Dark Ages' (ca. 500-1000 A.D.), literacy among the general population was at a low ebb. In the West of Europe, at least, the use of writing seems to have been restricted to a small number of persons, for the most part members of the clergy, lawyers, and government-officials. For ordinary persons — including the country-dwelling aristocracy of Germanic origin in Romance-speaking regions — reading and writing did not form part of their normal activities.

Of course, the sun shone as brightly as ever during the so-called 'Dark Ages,' and people went about their every-day business,

speaking, listening, and singing, as they have always done. Their discourse and poetry, however, was not considered worthy of being committed to expensive parchment by monks in scriptoria, who, in any case, regarded such *communis loquela* or *carmina vulgaria* as of little or no value. Under such circumstances, the theoretical knowledge concerning language that a literate person required was related to Latin, and for this the inherited *grammatica* (as formulated especially by Priscian and Donatus) was regarded as the best guide.[7] There was no felt need for analysing the 'vagaries' of popular speech. Even in oral poetry (of which one must assume that there was a considerable amount, as there always is in non-literate societies, and which must have existed as a basis for the later epics and lyrics which have been preserved), the apprentice poet would have learned his art, not from theoretical treatises, but by listening to and imitating his immediate predecessors, as we are told is still the practice down to this day in such countries as Yugoslavia.[8]

During the three centuries from 800 to 1100 A.D., the situation changed, because orthographies came into being — with a great deal of trial and error — for the previously unwritten vernaculars. As suggested by Paden (1983), this development took place in the various Romance-speaking countries, not all at once, but gradually as their structures (not only phonological, but also morphosyntactic and lexical) became differentiated from Latin. It came about first in Gallo-Romance, then in Ibero- and finally in Italo-Romance, whose structure had changed least from Latin.[9] With orthographical independence from Latin, and resurgent economic and social well-being, various types of formerly purely oral compositions developed to the point of being considered worthy of preservation in writing.

For our concern here, the most important aspect of the new situation was that persons who were not native speakers of the nascent prestige-languages, but who wished to compose literary works in them, needed guidance in not only oral but also written composition. This guidance was furnished in the shape of such manuals of vernacular grammar as, for Provençal, the *Donatz proensals* (XIII. cent.) and the *Leys d'amors* (XIV. cent.). The authors of these and similar works written for the other Western languages followed Latin models, as was natural; but they nevertheless had to take into account and formulate, in one way another, the differences between Latin and the vernaculars they were describing. The Latin model was still dominant, however, as shown by the non-success of the brilliant anonymous First Grammarian of Iceland; his radical departure from traditional patterns of description was not imitated by his successors in dealing with the structure of Icelandic.[10]

These were the beginnings from which came the later, still basically Latinizing grammatical tradition which has continued into our own times (cf. note 6). When printing was introduced in the late fifteenth century, editors felt the need of greater uniformity and standards in grammar and orthography in the books they pub-

lished. To meet this need, further grammars were written and academies were founded (or, at least, as in England, proposed) from ca. 1500 to the mid-eighteenth century. This movement towards standardization, plus the social ambitions of upwardly mobile members of the growing middle classes, formed, as it were, the rich humus in which grew the prescriptive grammar and purism which still holds most speakers of our modern standard languages in its grip (cf. Hall [1964:ch. 61, 62; 1974:ch. 8]). Out of this tradition, also, coupled with the new impulse being given by the contact of European scholarship with the Sanskrit grammatical tradition, Indo-European comparative philology developed in the nineteenth century.[11]

Several further, non-linguistic factors were at work in the sudden, rapid expansion of all types of linguistic knowledge during that century. One was the great increase in the number of non-European languages which became known and were studied, largely in the course of European colonial expansion of all types. Both these languages and more familiar ones could be described and analysed much more accurately than before, by new techniques of accurate recording, transcription and detailed description of phonetic phenomena. The rapid diffusion of such newly acquired knowledge was greatly facilitated by the *Verschulung* or 'academicization' of research and teaching, in the many new universities, and also in new chairs and institutes in old established seats of learning, which were opened in the nineteenth and twentieth centuries. Before ca. 1815, individual philologists had had to work in relative isolation from each other, as did, say, Gilles Ménage in seventeenth-century France, or the eighteenth-century mediaevalists Ludovico Antonio Muratori in Italy and Lacurne de Sainte-Palaye in France.[12]

What we usually consider the major contribution of the twentieth century, 'structuralism' (whether descriptive or historical), of course had its roots in earlier times, in the traditions just mentioned and in the work of such pioneer structuralists as Jan Baudouin de Courtenay. Since about 1920, there have been various kinds of structuralism on both sides of the Atlantic, with a profusion of theories and with a succession of sects and heresies, and pendulum-like swings between ever greater abstraction and formalization on the one side, and greater insistence on the function of language in human existence and activity on the other. We are (at least, we may hope we are) at the end of a swing towards the abstract and at the beginning of a return to viewing language as an activity of human beings.

The current situation is not due only to alternations of fashion. It is a reflection, at least in part, of a duality inherent in the object of our study.' Linguistic systems do have structures of their own, with relatively (but by no means absolutely) self-contained sets of relationships beyween their various component elements. These relationships can be described with relatively

little reference to their correlation with the non-linguistic world, even though their nature does not justify the appellation (which has been ascribed to both Saussure and Meillet) *le système où tout se tient* 'the system in which everything is related to everything else'.[13] On the other hand, the elements of a linguistic system do have a function in human existence which cannot be ignored when it comes to placing either a specific language or language as a human institution in its over-all context.[14]

Now that we are nearing the end of this century, the question is not only 'Where does linguistics go from here?', but 'Where do WE want linguistics to go from here?'. Many of us have not been at all happy with the developments of the post-1957 period,[15] and it was necessary to fight what was at first a rear-guard-action, similar to that of Pelayo in the mountains of Asturias against the Moorish invasion of Spain in the eighth century. To furnish a rallying-point for this resistance and a point of departure for a counter-attack has been one of the major *raisons d'être* — though not the only one — of L.A.C.U.S., whose tenth anniversary we are celebrating at this meeting. Now the tide is at least beginning to turn, so that — to continue the metaphor drawn from Spanish history — we can embark on what we hope will be a successful *reconquista*. For the next fifty-odd years, our task and that of our successors will be to keep all that is valid in twentieth-century structuralism (yes, even in the Chomskyan and similar 'heresies'), and at the same time to re-humanize it. We of L.A.C.U.S. and of similar organizations should help to keep the door open also to both pre- and post-structuralist approaches, and at the same time to assimilate linguistics, as broadly as possible, not into one 'social science' or another, but into the study of human activities as a whole.

NOTES

1. In general, his apologists tend to minimize Chomsky's debt to his mentor Zellig S. Harris, and to the latter's development of transformational techniques in grammar, which dates back at least to the late 1940's. Whatever is good in Chomskyan transformationalism is almost all of Harrisian origin.

2. As exemplified, for instance, in the numerous critiques assembled in Hall (1977b); cf. also Maher (1980/81) and my review of Newmeyer (1980) in Hall (1981/82).

3. Hymes (in Hymes [ed.: 1974:32]) speaks of 'the tendency to retrospectively assign all things structural to de Saussure.'

4. E.g. Tzvetan Todorov, Julia Kristeva, Roland Barthes, and Jacques Derrida. For Mlle. Kristeva, cf. Brousseau-Beuermann (1980); for Derrida, see Hall (forthcoming) and Watson (1982).

5. For other criticism, see the references in Hall (1977b).

6. Such as Arens (1955); Leroy (1963); Ivič (1965); Mounin (1966, 1972); Robins (1967); or Sampson (1980).

7. Certainly the *grammatica*, as a complex of doctrines regarding Latin usage as a whole, was inherited from long previously. The notion of Wright (1982) that the *grammatica* was 'invented' (as Dante thought) by learnèd men, and that those learnèd men were the Carolingian 'reformers' of Latin pronunciation, is quite unfounded.

8. Cf. Lord (1964:ch. 2).

9. Daco-Romance and Sardinian were, at the time, in quite a different situation. Slavic and Greek, respectively, were the languages of the dominant strata of the population and of government; no prestige accrued to every-day vernacular speech and there was no incentive to record it in writing (cf. Hall [1974:125-127]).

10. Cf. Haugen (1950).

11. Cf. Pedersen (1931)

12. Cf. the more detailed discussion in Hall (1977a).

13. Some European 'structuralists,' especially in the literary field, have seized upon the pseudo-Saussurean notions of 'l'arbitraire du signe' and of 'le système où tout se tient' to push the notion of a completely independent linguistic system to an extreme, denying that language refers to anything except itself, and hence alleging that a critic can force any interpretation he or she desires, arbitrarily, onto a text (which thus becomes reduced to the status of, literally, a 'pre-text'). Cf. Graff (1979:18-22); Watson (1982); Wellek (1983); Hall (forthcoming).

14. This problem is comparable to that of describing a railway-system. On the one hand, it is possible to characterize the component elements of a railway (track, signals, locomotives, cars, stations, etc.) with no reference to its social function. On the other hand, the latter can be analysed without regard to such matters as whether the trains carry people or freight; whether the passengers are segregated (as in South Africa) by race, color, etc.; what type of goods are carried, from where to where, and so on. This latter aspect of a railway's function in society can be described with relatively little attention to track-gauge, type of traction (electric, diesel, steam), height of station-platforms, and so forth.

15. Beginning with Yngve (1974) and Anttila (1974), expressions of this discontent are to be found in the proceedings of almost every L.A.C.U.S. Forum.

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INVITED LECTURE

THE NEED FOR REJECTION OF AUTONOMY IN LINGUISTICS

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1. AUTONOMY HAS OFTENTIMES BEEN CONSIDERED DESIREABLE FOR A PERSON OR FOR A DISCIPLINE

The implicit definitions of autonomy may differ. It can be the 'right of self-government,' 'without outside control,' or 'existing independently,' or 'responding, or reacting, independently of the whole' (Webster's New Collegiate, 1956.60). And, in linguistics, it might at times be affirming that some area is sufficiently separable to be accessible for study in independence of other parts of the language system.

As to personhood, Heilburn (1976.3.2.3) says that 'to the extent that a person can be conceived of as autonomous and not as the embodiment of a relationship, he or she has identity'; and [italics hers] '<u>identity is found in that area of existence where one is autonomous, that is, not dependent upon a relationship for definition</u>.' As for literature, Hirsch (1976.137) says that the 'intrinsic claims' of the New Criticism had had '"autonomy"'--here that of a discipline, rather than an individual--as 'its battle cry,' which was asserted for its subject matter and methods. And Cassirer ([1960] 1966.49) claims that 'the cosmos of universal mathematics, the cosmos of order and measure, comprehends and exhausts all knowledge. In itself it is completely autonomous; it requires no support and could recognize none, other than that which it finds within itself.' Persons, or a discipline, are sometimes presented as ideally or actually autonomous--in the sense of not being dependent upon relationships with other persons or other phases of scholarship.

Kant (in Manthey-Zorn [1938] 1966.65) says that '<u>The Concept of Freedom Is the Key to the Explanation of the Autonomy of the Will</u>'--leading to '<u>The Supreme Principle of Morality</u>' (59). And Vranicki (in Fromm [1965] 1966.307) says that 'Man in socialist society'...is 'the sole creator of his life'; and Baczko (in Fromm [1965] 1966.191) adds that 'Man creates himself by living and acting in history.'

As for linguistics, Katz (1981.10) has said recently that 'a related aim of this book is to encourage the establishment of the philosophy of linguistics as a well-defined, independent research discipline.' This, in turn, is related to his treatment of language, in the same volume, as an abstract object (see below, Section IV C). This, in turn, is related to the treatment by Chomsky and Halle (in Chomsky 1966.x) of 'the purely formal aspects of language, envisaged as a mathematical object.' In contrast to this, however, note Maher (1977.8) for whom 'Logic and

mathematics appear in serene independence only when detached from the matrix of their motivating circumstances. They are, that is, as autonomous as the smile of the Cheshire Cat'; and compare Lieberman (1979.101) who says that 'language,' 'like personality, cannot exist except in a social context.' Bloomfield (1930), much earlier, rejected motivational aims in language use; he rejected (544) 'teleologic formulae' of wanting, or choosing which (555) would seem by some to represent 'an invisible, supra-double, a "soul," "spirit," [or] "mind."' He wanted (555) a 'monistic view of things' but felt it did not matter 'whether we call it materialism or idealism.'

But, although each of these positions recommending autonomy either has made, or may make in the future, a substantial contribution to us, I am not satisfied with any of them philosophically. They appear to me to be too hyperbolical to serve some needs of research and simultaneously of daily living. So I (see 1983) have been trying to build an integrative philosophy which will help us to see more truth in our research aims.

II. USEFUL FOCUS CAN INVOLVE PARTIAL AUTONOMY IN A PARTICLE VIEW PROVIDED IT IS SUPPLEMENTED ELSEWHERE BY WAVE AND FIELD VIEWS

All research must be selective, since we are not ourselves infinite. So, a topic is selected and focussed on in accordance with our interests. Similarly, a theory must leave out (Pike 1982.6) some data not relevant to the immediate question. If the lines are sharply drawn between data considered to be "inside" and data to be considered "outside" the scope of observation, I will call this a particle view of that problem or discipline. Such a view can be very useful, for a while. But it faces inevitable change when research on the area is pushed far enough--since all items in the universe are eventually related by being inside that universe. (Compare mention of 'Goedel's theorem,' in Pike 1967.591, for this situation in mathematics.)

The boundaries between topics will eventually prove to be fuzzy, or overlapping. When that is the case, a particle view will need to be supplemented by a wave view. Then one can affirm the nuclearity of material temporarily in focus without the same internal pressures to ignore marginal data. (For a historical note on 'Fuzzy Grammar' see Newmeyer [1980.158-59].)

Alternatively, one can adopt lists of rules as a basis. If these rules are treated as process statements, then from that viewpoint they could be included as the crucial basis of a different kind of a "wave" within a structural perspective. Yet even this is not sufficient, since the set of rules either forms a larger pattern or else tells us but little. Toulmin, for example, says ([1967] 1981.111), 'The agenda of post-modern science requires us to take seriously, once again, the conception that nature has--or even is--a larger scheme, rather than an assemblage of separate aspects [italics his],' I would agree with this, provided it is applied not only to particles and things, but also to rules as waves, and to patterns and relations as fields.

Yet, as Chomsky has insisted (1966.94 n56), neither is it

sufficient to say that 'the syntactic structure of a language is some sort of list of patterns.' But what he needs to carry further, in my view, is that patterns are in turn embedded in further patterns--whether of bits or of rules. Rules do not explain much unless they are in an embedding pattern--and that pattern, as indicated here, must have regress into larger and larger patterns if one is to have happy descriptions. Yet explanation without pattern is eventually not explanation, as I see it. And description, at its best, is successive embedding patterns of something (whether it be of bits or of rules containing bits).

Consider the statement by Katz and Postal (1964.ix) in their preface: 'A description of a natural language is a scientific theory in the form of a system of rules from which the phonological, syntactic, and semantic facts about the language may be derived as consequences.' This statement may seem somewhat surprising, in the context of the time when description was hardly treated as theoretically exciting. During the same year Chomsky [1966. 94 n56] felt that it was to 'fly in the face of the facts' if one were to adopt 'the belief' that 'a language is some sort of list of patterns [italics added, KLP],' and that he was looking for 'a hypothesis of some significance regarding language structure.' On the other hand, he said (12) that 'To attribute the creative aspect of language use to "analogy" or to "grammatical patterns" is to use these terms in a completely metaphorical way, with no clear sense and with no relation to the technical usage of linguistic theory. It is no less empty than...' From my viewpoint, patterns are not theoretically empty, nor mere analogy, if one includes among one's starting presuppositions that part of knowledge must include patterns both as a norm determining the validity of proposed rules and as a generalized point of reference for aesthetic (e.g. poetic) variation.

Looking to memory, also, pattern is important beyond bits or rules. As Bruner (1960.24) affirms, 'Perhaps the most basic thing that can be said about human memory, after a century of intensive research, is that unless detail is placed into a structured pattern, it is rapidly forgotten'; and in this connection, pattern as a component of theory is important to us, since (25) 'A good theory is the vehicle not only for understanding a phenomenon now but also for remembering it tomorrow.' Both rules and lists should be seen in relation to pattern. Neither lists outside of slots, nor rules outside of pattern are relevant to behavior or knowledge.

But if, now, we have nothing but relations, we have yet another view. Lamb (in Lamb and others, 1982.10) says that 'It turns out that when we have identified all the relations that an object has, we have entirely accounted for everything that the object seems to have as its existence, and we no longer need to suppose that there is any object there at all, since every property that the object might be supposed to have has been accounted for by its relationships.' Here, again, one ends with "nothing but"--which can be expected to give problems because of its ontological reductionism (or "nothing-buttery," as MacKay [1974.43] has called

it).

As I see it, we need particles for rules to apply to; patterns for particles and rules to fit into; patterns of patterns for a field view which can encompass all three complementary perspectives.

We need, then, to reject the autonomy of any single perspective of particle, wave, or field (or autonomous static, dynamic, or relational views. We reject, too, the autonomy of mere lists, mere rules, or mere features in a system). Instead we seek a set of simultaneous or complementary approaches. I attempt to maintain such complementarity, here, by applying particle, wave, and field perspectives, rather than approaching language or behavior through any one exclusive point of view. Lakoff (in Simon and Scholes 1982.145-57) is--now, after 'fifteen years of working through a long succession of generative theories'--uncomfortable with a set of six items which he attributes to 'the autonomous view.' For example he rejects 'an autonomous language faculty' (145), saying (146) that 'the language faculty is not independent of other faculties.' He further affirms (146) that 'The language faculty makes use of other innate faculties,' that 'structures and processes of natural languages' follow, in some ways, from 'perceptions, memory, sensori-motor capacities, social interaction, etc.,' that 'rules of particular languages' 'depend on processing and use.' In addition, he claims (146), for example, that 'The meaning of the whole...may depend on perception, [and] knowledge about the world'; and 'Categorization is fuzzy and is characterized in terms of prototypes and deviations from prototypes.' With this latter "fuzzy" bit, he has some relation to our wave view of meaning, with its nuclei and margins. With the social interaction, he opens the door to consideration of the tagmemic entrance point to analysis (cf. Pike [1954] 1967.13, and Pike and Pike [1977] 1982 Principle 2.2). In suggesting that there are relations to nonlinguistic behavior, he likewise opens the door to a discussion of the tagmemic unified theory of languages and behavior (Pike [1954] 1967).

Complementarity of observer viewpoints, combined with attention to emic units and hierarchies, may serve as a basis for building a more general philosophy.

III. TAGMEMIC PRINCIPLES COMPRISE A "ROOT METAPHOR" FOR A PHILOSOPHY OF LIFE AND LANGUAGE

Tagmemics does not consider autonomy as an adequate presuppositional starting point either for living or for science. There must be a way to be closer to the reactions of the "man in the street." But to draw on the world of experience for basic insights is not new. Pepper ([1942] 1970.91) says that it is the 'traditional analogical method of generating world theories,' and such a starting point he calls a 'root metaphor.' But he points out that when the philosopher starts with commen-sense fact, he is compelled to understand other areas in terms of this one, with its concepts (categories). But then a difficulty arises: some facts or categories are eventually left out, or

forgotten, in favor of preserving the over-all approach (cf. Pepper [1942] 1970.94). It is also significant that Pepper feels that only seven or eight basic (autonomous, 330) theories have ever been developed. He emphasizes four of these (cf. 329): formism (Platonism with similarity and correspondence between like things, 158, 180), mechanism (186), contextualism (historical event in its setting, 232), and organicism (integration of process, not duration, 281). And (329) these 'four world theories' 'are our four basic concrete standards of judgment and evaluation.'

My own suggestion for reducing the gap between generalized common experience and the claims of particular theories committed to autonomy is that we should start afresh, using one variety of linguistic theory, tagmemics, as an alternative root metaphor. This theory has grown up in a climate of practical attempts by numerous scholars to analyze unwritten languages. As a result, it has the "down-to-earth" ability to start analysis with the 'observation sentences' which, Quine and Ullian argue (1978.25), are 'intersubjectively observable' and 'convey the basic evidence for all belief, all scientific theory' (28). In my research, I have worked with unwritten languages, and have been forced to use observation sentences extensively, especially when starting to analyze a language without an interpreter. There, I have had to rely heavily on pointing and on gestures to elicit such sentences. (Quine refers [1960.28] to some of my related work, in discussing such matters.) Quine had also (1973.41) called observation sentences 'the gateway to language,' and discussed difficulties arising from differences between 'what counts as observations for the specialist' versus 'for the layman.' He insisted 'on adherence to the broad linguistic community for the philosophical criterion,' rather than the 'specialist's recondite sentence,' since 'the specialist can always be driven back to the less technical levels of evidence.' In addition, he leaves room (41) for 'repudiation' of a sentence after further data--but retains his basis in the statements 'of witnesses subject to receptually similar impingements' (with resulting problems of homology).

References to the discussion of Quine's position are found in Pullman (1983.14, and cf. 17). He feels that Quine's position may 'lead to pessimism about the possibility of a respectable theory of word meaning' since 'as a scientific enterprise (though not necessarily a practical one)' 'apparently it must admit an unacceptible degree of indeterminacy.' (But here, in tagmemics, we would again (see II) mention the wave complementarity for allowing a 'fuzzy' variableness within the system.)

For linguistic theory we need an approach which is complex enough to allow for physical concepts, along with persons who can choose. Tagmemic theory offers a start in this direction. It already serves in the analysis of languages as well as football games, church services, breakfast scenes, and party games (Pike 1967).

The complexity of tagmemic theory prevents its being presented in detail here. The basic assumptions are presented by Pike

(1982) in a way which--we fondly hope!--should be intelligible to the philosopher. Some further illustrations and developments of the theory are shown in the analysis of a narrative text and of a poem, in Pike and Pike (1983). Here I shall give only a few comments about certain crucial characteristics of human nature and behavior assumed by tagmemic theory, and show how these relate to (i.e. lead us to reject) the desire for autonomy mentioned at the start of this paper.

IV. TAGMEMICS INSISTS THAT NO UNIT CAN BE UNDERSTOOD OUTSIDE OF SEVERAL DIFFERENT KINDS OF SIMULTANEOUS CONTEXTS

Because of contextual necessity in characterizing language parts and functions or rules and patterning, the tagmeme itself is called a unit-in-context. Each of the components ("cells") of a specific tagmeme has a contextual relation outside itself; and there are several different types of context which occur simultaneously (but not necessarily with isomorphic borders). One kind of context is never sufficient by itself to describe an element adequately even when extensive patterning within that contextual type is treated.

In this section, I first show inclusion of parts within three distinct but mutually dependent hierarchies (phonological, grammatical, and referential). Second, I discuss the nature of variation within and contrast between units (etic versus emic differences), growing out of the relation of observer to item observed. Third, I discuss the necessity, in the study of human behavior, of keeping meaning tied together with physical manifestation of meaning. Fourth, I discuss alternate standpoints for the observer (static, dynamic, and relational--particle, wave, and field). Finally, I discuss four basic elements (slot, class, role, and cohesion) of the tagmeme itself, as a unit in all hierarchies and standpoints involving human behavior.

(A) INCLUSION IN A PART-WHOLE HIERARCHY DOES NOT ALLOW THE AUTONOMY OF INCLUDED PARTS

Every item (with the exception of the most inclusive unit of our believed-in metaphysical system--e.g. a mechanistic or pantheistic or theistic whole) is part of something larger, or is in some context which is larger, or else we cannot understand it. A human being, for example, is understandable only as part of the human race.

Jakobson (1963.159), for example, says that 'The artificial treatment of messages without reference to the superposed context once more exemplifies the illicit conversion of a mere part into a seemingly self-sufficient whole.' (See, also, Lakoff 1982.146 [6,6], as mentioned in II, above.) For patterns of change in molecular movement, Purcell (in Lerner 1963.21) says that 'the Ising problem stands as a sober warning to anyone who attempts to carve a path of rigorous deduction from the part to the whole.' And, for economics, Lerner (1963.5) warns that 'the fundamental problem arises from the fact that economic activity occurs within a larger matrix of individual behavior and social constraints.'

But linguistic hierarchy, itself, must be seen as composed of three interlocking but distinct hierarchies--none of them autonomous in relation to the others, since each exists only if there are the others. Yet each of them is sufficiently distinct to require separate (but overlapping) treatments.

(1) PHONOLOGICAL HIERARCHY RULES OUT PHONOLOGICAL AUTONOMY

Sounds do not exist, as relevant to speech communication, except as components of larger groupings of sounds (which are also units) such as syllables, stress groups, rhythm groups, pause groups, or styles determined by choice of voice quality. The vowel /o/ is not just a sound--it is a part of words like 'boat'; and that word may be in a larger unit such as a poetic line. An attempt to give autonomy to phonology, however, disintegrates into undefinable noises--since the relevance and boundaries of sounds depend on their occurrence, also, in lexical and grammatical hierarchical units. Fortunately, scholars are beginning to relate changes of sounds to syllable structure after many years of relative neglect of this factor(and further hierarchical ones). (See, for a summary of some recent studies, and an extensive application to the Seri of California, Marlett and Stemberger 1983.)

The rejection of phonology as autonomous from grammar, on the other hand, I treated in detail years ago in articles on grammatical prerequisites to phonemic analysis (1947, 1952). The analyst cannot get started without some reliance on the position of phonemes in larger units, and the relation to meaningful (lexico-grammatical) elements. Even the classical admittance of 'same versus different' is the admission of cultural reactions from outside the pronunciation itself. Interlocking prerequisites, in my view, should be broadened to include not only grammar as such, but lexicon and reference. (Compare, for a related suggestion, Van Valin and Foley [1980.331] who, in their research, say that 'morphosyntactic structure constitutes an independent level apart from semantic and pragmatic factors, although we do not posit it as absolutely autonomous as in TG [transformational grammar].')

(2) GRAMMATICAL HIERARCHY RULES OUT GRAMMATICAL AUTONOMY

But, in this decade, the reverse of my pair of articles still needs to be mentioned: there are phonological prerequisites to grammatical analysis or to the referential analysis of data. Words do not exist, as relevant to speech communication, except as parts of conversations, monologues, sentences, clauses, phrases. Words used merely as exclamations are still within the larger community-controlled patterns, differing from culture to culture. Sentences viewed as true or false, apart from a context of social interaction, may be hopelessly un-interpretable. When an entire audience knows with the speaker that he is being ironic, a statement which on the surface (and to the outsider) seems to be claiming to be true may in fact seem quite the opposite to the speaker and to his intended audience. As such, it may be neither a lie nor false, in refernece to intent and interpreted content. It may be clear communication (e.g. through sarcasm) of the intended

truth, expressed in a special way. A kind of logic which attempts to abstract sentences from behavioral, social, psychological, historical, and discourse contexts, therefore, cannot treat adequately some of the normal language of normal people in normal situations. It is classical logic which is incompetent here.

(3) REFERENTIAL HIERARCHY RULES OUT REFERENTIAL AUTONOMY

Paraphrases allow the same basic content to be told in various ways. The series of events of a story, for example, can be told, in English, in reverse order, without destroying the report of the chronological sequence of those events. (One can say, for example, either 'John came home and ate supper' or 'John ate supper after he came home.' The changes of clause order, and from one to two sentences, do not alter the facts of the event. The differences in focus or emphasis which are thereby attained--themselves a kind of meaning--are in tagmemics attributed to the grammatical form; the retained content is attributed to the referential structure.) On the other hand, two words may be homophonous, but referentially distinct (as are 'sea' and 'see').

Lexical meaning, here, is treated as a component of the referential hierarchy; and encyclopedic knowledge is another component of that hierarchy. (In tagmemics, it should be noted, some semantics seen as speaker intention, or impact on the hearer, is also involved in phonology though stress placement, for example, and in grammar by way of the subject of a clause serving as the actor (versus--in a passive sentence--as the one affected).

(B) EMIC VERSUS ETIC UNITS DIFFER AS TO CULTURALLY NON-AUTONOMOUS "INSIDER" UNITS VERSUS "OUTSIDER" VIEWS TIED TO THE ANALYST NON-AUTONOMOUSLY

A crucial characteristic of tagmemic linguistic theory, which it extends as a root metaphor to all of human behavior, is its insistence upon a relation between observer and observed; between knower and the item known. Knowledge of autonomous items is denied. Knowledge is seen as a "composite" of an observer component and a component of item as observed.

Tagmemics bridges the gap between person and thing by the concept of emic units. This is perhaps most easily seen in the analysis of sounds. From language to language, physical sounds differ in the way they are identified or grouped into units significant in communication. Such a unit has been called, for a century, a 'phoneme.' (For a discussion of the early use of the term, see Pike 1967.44, 49-50, 344-46.) Phonetic variants, not affecting meaning transfer, for example, are ignored in making emic--phonemic--alphabets. The identification of such emic units of sound requires the identification of socially-significant contrasts related to their use.

Tagmemics has taken the phonemic-phonetic distinction in relation to sounds, and applied it to <u>all</u> areas of human behavior or thought (Pike 1967); and, to indicate the difference from the restricted classical use, in phonology, it developed the general terms emic (from phonemic) and etic (from phonetic).

The emic approach, based upon normal form and normal meaning components comprises a crucial place to start. It leads to a rejection of observer-autonomy and a rejection of thing-autonomy--but within a system of analysis which has applications to the study of behavior.

Quine (in Shahan and Merrill 1977.181, and see III, above) in dealing with 'observation sentences' (e.g. in pointing at things) is touching implicitly on the emicness of insider viewpoints, when he says that 'The main thing to settle, in the way of fixing objects, is their individuation: we have to fix standards of sameness and difference.' For tagmemics, emic sameness is relative to the insider viewpoint.

For another approach in philosophy which has relations to emics and etics, see Goodman (1978.x). He wishes to maintain a degree of objectivity which is not culturally determined (compare some uses of the term etic) along with the culturally relative handling of variation (compare the term emic in its relation to cultural criteria). In his words, 'What emerges can perhaps be described as a radical relativism under rigorous restraints, that eventuates in something akin to irrealism.' Compare, also, Polanyi (1969.117), in which 'knowing is always a tension alerted by largely unspecified clues and directed by them towards a focus at which we sense the presence of a thing...that...embodies the clues on which we rely for attending to it'; (and see also 196).

Ringle (1982.54-55) suggests numerous items 'that might be available in human semantic interpretation'--including, for example, 'perceptual properties of objects,' with their 'functional properties' and the 'physical and logical relations' among them, as well as properties of events, 'dispositions to behave,' 'qualitative aspects of sensation,' and 'higher order properties of semantic conceptualizations.' Yet (55) he finds that 'we run into the problem of how "similarity" is to be judged and measured'--in our 'cultural, dependent processes' with 'shared physical and cultural elements,' and 'variations' so that 'communication is always based on the proximity of semantic interpretation among individuals'--a view related to emics.

It would seem to us, furthermore, that such emicizing of human culture has some relations to animal culture as discussed by Lenneberg (1970.368): 'One may discover the rules that govern the formation of sets in visual recognition as well as in language. ...In other words, we ask what kinds of patterns are processed by the animal as if they were similar; what kinds of distortions and transformations preserve or destroy the sense of similarity for the animal; and the problem essentially remains the same, no matter whether the animal is man, dolphin, or honeybee'; even though 'the "sense of similarity" is often species-specific,' so that cats 'do not seem to be able to recognize objects when they are presented as line drawings.'

Emic structure, in my view, has innate limits of variability for human possible behavior. For the insistence that such limits occur, Chomsky (1957) contributed heavily by forcing attention on innateness, even if we disagree as to what the limits of innateness may be. (For example, I would not assume that in

analysis or presentation that syntactic structural rules must be separate from, or prior to, phonological ones; nor that grammar stops with the sentence.) Chomsky (1966.78), for example, would feel that 'human language is based on an entirely distinct principle' from animal communication, although he says that 'Human and animal communication fall together only at a level of generality that includes almost all other behavior as well.' But, in my view, this level of generality is also important. Tagmemic principles have from the beginning (Pike [1954] 1967) treated various universal principles of human behavior which overlap to an as yet unspecified degree with principles of nonhuman behavior.

(C) IF MATTER IS SEPARATED FROM MEANING (OR FROM RELEVANCE TO AN OBSERVER) AN AUTONOMY IS POSTULATED WHICH TAGMEMICS REJECTS

The emic treatment of behavior involves a tie of matter (e.g. the material involving sound waves or of brain activity) to meaning. But the relationship needs further emphasis from a different point of view. As distinct from any analytical approach which wishes first to find and describe meanings, and then to find and describe their physical forms (with "form" used in a physical sense), tagmemics requires that both in empirical research in natural languages and in theorizing about them, the discovery of language structures and the description of their meanings must be in part simultaneous. Word forms are relevant because of their emic relation to meanings. Meanings are emically present only if they are manifested in physical forms. The emic structure of language as a whole (in its various emic hierarchies) helps tie form to meaning, and meaning to form.

From this tie an approach to philosophy results which seems to me to be quite different both from a Platonic abstractionism and from a materialistic view. (For a brief historical treatment of one aspect of 'The Autonomy Thesis' in which Chomsky initially opposed the 'semantic motivation for syntactic structures' see Newmeyer [1980.236].) For a long time, it seems to me, thinkers have been struggling to choose to treat matter as basic, or else to treat meaning or ideas as existent apart from matter, or to treat one of them as basic and the other as secondary. Here, I want to hold them firmly together in my integrative philosophy as based on tagmemics as a root metaphor. As Lewis (1947.110) has said, in a very different kind of context, 'For Reason knows that she cannot work without materials'; and we must avoid 'the abyss of abstraction' (106). Yet it is precisely here, in my view, that Katz (1981) has now gone too far, in his book 'Language and other abstract objects.' He says (1981.3) that he has had a 'radical change in [his] outlook on the nature of linguistics and the philosophy of language.' He 'no longer' accepts 'the equation of the scientific with the empirical and the view that the study of grammar is a part of psychology.'

Katz affirms (1981.9, and see Section I above) that 'language is a timeless, unchangeable, objective structure.' (Although he admits that 'it seems outlandish to think of a natural language as a set of abstract objects, like numbers, whose existence is

independent of us.') And he rejects the suggestion that 'only the social conception can explain language change.' Rather, he says, 'Language change can be understood in the Platonist conception as taking place when speakers within a certain line of linguistic development come to have a system of grammatical knowledge so different from the system of their predecessors that these two systems constitute knowledge of two different sets of abstract objects.' And (9) he rejects as irrelevant the problem of gradual change: 'Platonism faces no special problem about what counts as sufficiently different. The line-drawing problem is a problem of everyone. Relative to a solution, Platonism can group idiolects as a dialect and dialects as a language in terms of conditions of set membership over classes of abstract objects.'

I find it hard to vibrate in tune with this suggestion. (1) To me, as a given, language change seems visibly related to its being spoken by people, in a social climate, with loans from concrete situations. Dialect geography has shown too many differences at the geographical borders of a language for this indeterminacy to be ignored, or to be handled as merely abstract subsets. (2) I do not enjoy the implication (which I seem to detect, perhaps mistakenly) that a language--made up of many such dialects--is eternally existing apart from being spoken or having been spoken.

Yet surely something must be there to encourage us to be sympathetic with his aims. Can we find it? The best I can do is to show that for a long time, before his current kind of abstractness, Katz with Postal (1964.ix) 'found it necessary to distinguish sharply between language and speech.' following de Saussure. Even then, they had 'A language as a system of abstract objects.' It is quite possible to sympathize with de Saussure who did not want the chess game to be identified with the wood versus the ivory of the chessmen. But when one is dealing with languages which are unwritten, and sees what one must do to get started, one finds it somewhat easier--if he sees it as I do--to follow Quine (in Shahan and Merrill 1977.181) when he says that 'If inquiry is to begin with what is clear, then let us begin as physicalists.' And this seems to me to hold, even though I am not a physicalist with Quine, and in spite of the difficulties he is facing (189) with the fact that in current physics 'the very notion of particle is inappropriate at points...the extrapolations of the primordial body into the very small is marginal at best. A field theory may be more to the point,' such that 'Thus at last bodies themselves go by the board--bodies that were the primordial posits.'

But I wish to see matter and mind held together in philosophy, as in common sense. Let me try to say this in a poem:

MATTER AND MIND

Matter alone will not do--
Heart will sue
If neglected.

Heart, alone, is sad.
Mind, neglected, is mad.

"Nothing but" is death--
Or hyperbole
Out of breath.

Matter and mind--
Tie them up tight.
Package them right.

(D) THE TAGMEME ITSELF IS A UNIT IN CONTEXT, WITH FOUR COMPONENTS (CELLS) WHICH THEMSELVES HAVE CONTEXTUAL COMPONENTS

In tagmemic theory there is a further feature which makes explicit the theory's rejection of autonomy. This is the unit which gives its name to the theory, the tagmeme itself. Four essential characteristics of the tagmeme--slot, class, role, and cohesion--may be presented informally here. (For a formal discussion of the relationship of the four, using the model of the tetrahedron, see Pike and Pike 1983, Chapter III.) Each of these features is tied to a different kind of context; each rejects autonomy of the tagmemic unit-in-context.

Perhaps it might help the reader to follow this part of the discussion a little more easily if there could be a partial relation of this approach to a statement by Chomsky (1966.7) in which he says that 'Cordemoy is arguing that there can be no mechanistic explanation for the novelty, coherence, and relevance of normal speech.' If this statement were to be translated into terms related to tagmemics, one might suggest (1) that 'novelty' is related to position or place in some larger scheme (i.e. slot); (2) 'normal speech' as filling the class cell, of concrete data; (3) 'relevance' as implying a relation of the data to the observer of that data; and (4) 'coherence' as comparable in some degree to the tagmemic term of cohesion.

Tagmemes are found, with appropriately different manifestations, in all three hierarchies--phonological, grammatical, and referential (see above, Section A)--and at each level of each of those hierarchies. The tagmeme is presented as representing the fundamental unit of organization of these hierarchical structures.

(1) SINCE A CONSTITUENT OF A STRUCTURE (LINEAR, OR N-DIMENSIONAL, OR TAXONOMIC, OR OTHER) OCCURS IN SOME POSITION (SLOT), IT IS NOT AUTONOMOUS IN RELATION TO THAT INCLUDING STRUCTURE

Any item occurs within a <u>slot</u>, or position, in a larger unit (see A) which acts as part of some hierarchical context of that smaller unit, and which is of immediate relevance to it. This includes the relation of a part to the next highest layer of the immediate whole which contains it. A subject is part of a clause. A clause is part of a sentence. A sentence is part of a conversation, or narrative, or pattern of thought. (In a body, similarly, the nose is part of the head.) Yet, as Jakobson said (in Lerner 1963.157), 'another frequent limitation was to treat the

sentence as the highest linguistic unit. Superior wholes, namely utterances which may embrace a higher integer of sentences, and the discourse, which normally is an exchange of utterances, remained outside the scope of linguistic analysis.' (But, for their earlier inclusion, see Fries [1952.42-47,53,240-55].)

If one professes autonomy for a person, one is probably ignoring family membership, citizenship in a country, belonging to various organizations for sport, work, or religion. The ignoring of this slot component leads to a pseudo-autonomy of the person.

(2) ALTERNATIVE PERMITTED MANIFESTING ITEMS OF A LARGER STRUCTURE COMPRISE A CLASS OF ITEMS, WHICH IS PART OF A UNIT-IN-CONTEXT (TAGMEME); A MEMBER OF SUCH A CLASS IS NOT AUTONOMOUS IN RELATION TO THAT CLASS OR ITS DEFINING CONTEXT

A particular emic unit such as the word 'table' may be one of a large or small distribution class of items which can come in the same slot, and each of which carries the same grammatical or formal relations to the rest of the containing formal structure. Grammatically, one may say either 'the table over there' or 'the book over there' or 'the man over there,' for example. Similarly, referentially, one can say that Bill, Joe, and Susan are all offspring of Mr. and Mrs. Jensen; or that 'castle' and 'cottage' are taxonomically included in 'a building.' Phonologically, the nucleus of a syllable may contain one of the class of vowels.

(3) ALL EXPERIENCED MATERIALS OR THOUGHTS ARE THEREBY IN PART CHARACTERIZED BY THE RELEVANCE OF THAT EXPERIENCE TO THE OBSERVER AND TO THE OBSERVING COMMUNITY, WITH NO AUTONOMOUS "THING-IN-ITSELF"

Any unit in culture will have some purpose in that culture, or relevance to it. Any object under observation, or in imagination, will be relevant--from the viewpoint of the observer--to his understanding of the pattern of the world of things or thought. The role component stresses this feature as related to the observer. Thus a description of a sentence will specify, when appropriate, whether or not it was intended ironically; or it will indicate the relation of cause to effect in an event; or whether or not a stressed syllable puts an item under focus. Omission of these characteristics may force one towards an observer-detached view which posits the autonomy of things or events or texts in relation to the observer.

But for affirmation of 'our person' which 'appears to us just as it is "in itself"'--with possible relevance for other issues--and discussed in relation to 'the Kantian conception of relativity of knowledge,' see Bergson (1946.30).

(4) UNITS ARE NOT AUTONOMOUS IN RELATION TO THE IMPLICIT OR EXPLICIT BACKGROUND AGAINST WHICH THEY ARE EXPERIENCED OR UNDERSTOOD

Even when units have been treated as in an essential relation to an immediate context (in slot), there is a further contextual component of relevance: a place in a general background system

(cohesion) of the culture, or in the scientific view under attention, or in the larger context of the particular text containing it. No discussion or research, and no myth, occurs in an autonomous vacuum of non-thoughts, non-experience, non-epistemology. If one were to attempt to discuss issues or things without reference to any such background, explicit or implicit, the autonomy that might result would at best be a random set of unidentifiable bits not recognizable as bits of any thing or event or person. On the other hand, if one were to attempt to work with only the cohesion itself--omitting place in immediate context (slot), sets of items or items (class), and specific purposes of, or relevance to, an observer (role)--one might, perhaps, have a variety of pantheism in which everything is assumed to be merged noncontrastively into the One--undifferentiated, undirected.

It is interesting to compare this discussion with the assertion by the philosopher Sinclair that the 'Explanation of a fact or situation consists in finding a way of regarding it so that it is seen as an integral part of a larger whole or system' (1944. 130). And compare it, in turn, with the statement of a physicist, Planck, that 'it is an especially stimulating undertaking to discover the absolute which alone makes meaningful something given as relative' (1950.46).

In tagmemics, items or views or features are themselves developed as parts of a still larger system (of unit-in-context, in system), so that our struggle to see parts and wholes, things and relations, is built on a root metaphor which has served in daily, complex life and analysis. It is this system which I call (Section 1) my integrative philosophy.

It will be interesting to see whether, in the future, this could help bridge the current 'gap between logical and linguistic semantics' which Partee has discussed (in Simon and Scholes 1982. 72). She sees 'properties that render Montague's models unrepresentable by finite brains'--and, in part, 'the source of this problem is that Montague, like most logicians, was trying to bypass the mind in relating language to the world.' Partee (73) would prefer 'to replace the purely mathematical conception of function by the more computational notion of procedure in the analysis of intentions.' And 'the resulting theory, if it can be successfully worked out, would make finer-grained semantic distincitons and at the same time be more psychologically plausible.' (But she emphasizes [73] that this is not yet 'a worked out solution,' nor is the notion formalized.) 'But what,' she asks (67), 'if the logician has to make essential use of tools we can show to be beyond the powers of human cognitive processing? And what if the mind, in its interaction with the world, not only selects from and structures the sensory input, but systematically distorts it so that some conceptually possible worlds are logically impossible or vice versa? Then it could turn out that a logically adequate semantics and a psychologically/linguistically adequate semantics are incompatible. I think this is a real possibility.'

For my part, I accept the philosophical--and empirical--necessity of emic standpoints from which to view the world--our

world. I accept the need for complementarity of viewpoints with particle, wave, and field. I accept the existence of tagmemic constraints even on all possible science fiction written by human beings (Pike 1980), and on all possible human thinking about logical structures, or other worlds. But this does not limit creatures from other worlds--or God Himself--from having different or greater logical and emic capacities beyond ours, which leads to conclusions which we can only treat--within our innately-given philosophical limitations--as complementary tactics, or as paradoxes, or contradictions.

In conclusion, perhaps I can gear the theory further into daily life and feeling by adding a poem which I wrote to try to emphasize the fact that my understanding of the non-autonomous "me" includes my non-autonomous feeling:

ISOLATED WHEEL

"I want to be"
  Me, linguist.
  (Not you, psychologist,
  Nor you, over there, anywhere.)
Not alone. Just self-known.

But, wait...
  I'm a wheel,
  Geared to power
  With friends sharing trends,
Forced to production.

Should I abandon
  Sources of strength--
  Audience to cheer,
  Others to chide?
I need the universe.

I am not autonomous. Things are not autonomous. Ideas are not autonomous. The universe is not autonomous. Linguistics is not autonomous. We are hooked--together.

P.S. As an example, myself, of non-autonomy, I hereby gratefully acknowledge helpful comments received from (phenomenological) philosopher Lenore Langsdorf and (transformational) linguist Donald Burquest, concerning an early draft of some of the principles elaborated here.

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II

DESCRIPTIVE LINGUISTICS

TYPES OF GRAMMATICAL RELATIONS

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I have presented my general theoretical position at an earlier LACUS Forum (see Garvin 1978a); since it is unlike that of many of my colleagues and is not too well known, let me begin by some introductory remarks outlining the points most relevant to the present argument.

First of all, let me stress that I am following a pattern model rather than a deductive, causal model of explanation (see Kaplan 1964:327-46). This means that I am not trying to explain linguistic phenomena by showing some suggested causation, but am rather trying to show how these phenomena are related to each other and fit into a pattern.

Secondly, what I propose to discuss here falls into the realm of what I call reference models rather than hypotheses. This is because to me a hypothesis is an assertion which can be conclusively confirmed or disconfirmed; this seems to me very hard to achieve in linguistics. What I consider much more realistic and useful is the development of frames of reference for analysis which I call reference models (see Garvin 1978a: 345-7); this is what I am concerned with here.

Thirdly, one of my fundamental theoretical assumptions is that linguistic units obey the Gestalt principle. This means that instead of looking at the stream of speech (or text, or sentences) as a process of concatenation into strings, I view it in terms of a process of integration into what I call fused units, that is, units which obey the Gestalt principle of having overall properties transcending the mere sum of their parts, and functioning in their contexts as integrated wholes (see Garvin 1978a:340-1).

Fourthly and finally, my methodological principle is one of concentration on discovery procedure (see Garvin 1978b) rather than argumentation; thus, grammatical analysis to me is concerned primarily with the determination of the recognition signals by which the boundaries and functions of linguistic units can be identified--to "account for" a given linguistic unit to me then means to discover the recognition signals by which its boundaries and functions can be determined.

This is based on my professional experience with not only discovery procedure--mainly, but not exclusively--in the sense of developing principles for the analysis of little known languages, but also with language data processing (mainly machine translation); in both of these activities, the question of recognition signals is crucial. It seems to me that the mainstream of current linguistics is not strongly concerned with the boundary problem, although the question of function is being given due attention--in my view, the two are closely connected, but mine is clearly a minority position.

Let me now turn to the "meat" of my topic.

By "grammatical relations" I mean any significant relations within the grammar, not just the relations between clause constituents. I like to distinguish between two basic kinds of grammatical relations: formal, and semantic. Formal grammatical relations are those that are actually observable in the overt forms of a language; semantic grammatical relations are those relational meanings that characterize important grammatical conditions.

The most important of the formal grammatical relations are agreement, government and order of constituents. I use the latter term because the order principle is not limited to words: it can apply to the constituents of any kind of units--morphemes within words, words within phrases, phrases within clauses, and the like. Thus, what is commonly called "word order" often applies to the order of clause constituents which may consist of more than one word each.

Let me begin by discussing agreement and government. Agreement is a relation in which two or more functionally related linguistic units exhibit the same grammatical property; they are said to "agree as to" this property (or properties). For instance, in many Indo-European languages, modifying adjectives agree with the modified noun as to case, number and gender. Government is a relation in which one linguistic unit requires the presence of a certain grammatical property in another unit that is functionally related to it; such a unit is said to "govern" this property. For instance, in many Indo-European languages, a given verb may govern a particular case or may govern a particular prepositional construction.

(1) V. V. Ivanov napisal stat'ju ob ètoj probleme (Russian)

-----"------ wrote article about this problem

Example (1) illustrates both of these relations: the subject (V. V. Ivanov) agrees with the past tense form of the verb serving as predicate (napisal) as to number and gender;

the verb serving as predicate governs an object in the accusative (stat'ju...).

(2) hu- -cxaɬ- -c?inax- -aɬa?- -ne· "we shall go there" (Kutenai)

1st p. future base plural indic.

Example (2) illustrates order of constituents, in this particular case the fixed order of morphemes within the word in Kutenai (a language of the Northwest). Fixed order of morphemes and morpheme clusters (groups of morphemes functionally equivalent to individual morphemes) serves as a criterion for word status in this and quite a few other languages: at the point where morphemes are in invertible order, the boundary between the given word and another word is assumed to have been reached.

The most important of the semantic grammatical relations are the basic grammatical functions; these are those meaningful grammatical relations that are assumed to constitute part of the mechanisms by which the integration of lower-order morphosyntactic units into higher-order fused units can be said to take place. That is, they are the relations by which words are integrated into phrases, phrases into clauses, clauses into multiclause sentences.

This raises a most important analytic question in my frame of reference: by what formal relation (if any) is a given basic grammatical function expressed in a particular language (or, in terms of the earlier stated aim of linguistic analysis, what formal relation--if any--constitutes the recognition signal for a given basic grammatical function)? This question was particularly important in my work on language data processing, where automatic parsing is done by identifying the formal recognition signals and inferring the functions of the units from them.

There are four kinds of basic grammatical functions that I have been using as a point of departure.

The first of the basic grammatical functions is related to the morphology, namely, grammatical categories. I am using this term in the conventional sense to indicate those grammatical meanings and their formal correlates that have traditionally served as the organizing principle of notional grammar, such as person, number, gender, tense, aspect, etc. They commonly occur in paradigms, that is, in sets representing the different terms of a given category or categories. An example of a paradigm is the set of the different person and number forms of a verb in a language like Latin or Russian.

The optimal overt expression of a grammatical category is one morpheme per term of a category; this is the case in many of

the languages traditionally called agglutinative or polysynthetic.

(3)	hu-	-n-	-ʔik-	-nalaʔ-	-neˑ	"we are (were) eating" (Kutenai)
	1st p.	indic.	base	plural	indic.	

Example (3) shows how each morpheme of a given word expresses a term of a grammatical category: person, mode, number, and the like.

Another common way of expressing grammatical categories is to have terms of more than one grammatical category expressed through the same morpheme. This is often the case with languages traditionally called inflectional, such as those of the Indo-European family. Examples (4) and (5) illustrate the expression

(4) govor-ju "talk" + 1st p. sing. (Russian)

(5) govor-ite "talk" + 2nd p. pl. (Russian)

of person and number through the same morpheme; example (6) illustrates the expression of gender and number through the same morpheme.

(6) govor-il-a "talk" + past + fem. sg. (Russian)

The second of the basic grammatical functions is the modifier/head relation. This is the meaningful relation between a qualifying element and the element it qualifies, a relation often found between a noun--the head--and the adjective that qualifies it--the modifier. The modifier/head relation typically characterizes the internal structure of phrases: the just mentioned relation between the nominal head and the adjectival modifier can be said to characterize the internal structure of noun phrases.

The optimal formal relation through which the modifier/head relation is experessed is the agreement between modifier and head, found in many Indo-European languages. Example (7) illustrates

(7)	pjat-ogo	dn-ja	(Russian)
	5th/gen. sg. masc.	day/gen. sg. masc.	(=the 5th day)

agreement as to case, number and gender between modifier and head.

Although such conditions as the modifier/head relation characterizing the internal structure of phrases are quite well known, it is my observation that in recent research on syntax the

internal structure of phrases is not given much attention. In my work, I not only stress the internal structure of phrases but I am also committed to a differentiation between true phrases that exhibit the modifier/head relation and other phraselike units that do not. This also is an issue not given much attention in recent research.

The third of the basic grammatical functions are what I call the clause functions, which are the relational meanings (such as the subject or predicate meaning) characterizing the constituents involved in the predicational meaning of a clause. The most common clause functions are the subject (S), predicate (P), direct object (O), indirect object (I), and complement (C) functions; the latter corresponds to what relational grammarians call "obliques" and many other linguists call "adverbials". The optimal expression of the clause functions is through agreement between subject and predicate, through government of direct and indirect object by the predicate, and through the relative independence of complements. Example (8) illustrates this: it

(8)	Včera	Ivan dal	Vere	knigu	(Russian)
	Yesterday	Ivan gave	Vera	book	
	C	S P	I	O	
	indep.	agreement	government		

shows agreement as to case, gender and number between subject and predicate; government of direct object in the accusative and indirect object in the dative by the predicate; relative independence of the complement.

The significance of this expression of the clause functions lies in the recognition signals they provide for identifying the boundaries and functions of the units that are the carriers of these clause functions, the clause members. In my work on machine translation, more specifically, in the work on the automatic syntactic analysis of the source language, Russian, I have concentrated on the use of agreement and government as signals for the identification of clause members.

Finally, the fourth of the basic grammatical functions are the interclausal relations, which are the relations between clauses in a complex (compound or coordinate) sentence. These are the basic relations, such as those of coordination and subordination, that are traditionally considered to link several individual clauses into a complex whole sentence. The optimal recognition signals for these relations are conjunctions or differences in grammatical mood, as shown in example (9).

(9)	Quisiera	que	me acompañes	(Spanish)
	I'd like	that	me you should accompany	
	conditional mood	conjunction	subjunctive mood	

The above discussion of types of grammatical relations raises one very deep theoretical issue that I have not yet been able to address adequately, one which I consider of real significance. It concerns the significance of the fact that grammatical categories are characterized by a one-to-one or an a-few-to-one relation of the category or categories expressed to the morpheme expressing it, while the other basic grammatical functions are characterized by a one-to-a-class-of-units relation between the function expressed and the elements expressing it. Thus, as already noted, a given single morpheme is usually used to express a term of a single grammatical category or the terms of a small bundle of grammatical categories (such as case, number and gender). On the other hand, the modifier/head relation obtains between an unrestricted class of modifiers and a similarly unrestricted class of heads; likewise, the clause members carrying the clause functions constitute classes of unrestricted membership, and the same holds for the clauses entering into interclausal relations. This question affects the consideration of the morphology/syntax distinction: even though grammatical categories are not consistently or not at all expressed morphologically in many languages, still they are more closely associated with the morphology than the other basic grammatical functions. Thus, the expression of each of these basic grammatical functions by on the one hand one or a few elements, and on the other hand by an unrestricted class of elements, might be in some meaningful way related to the morphology/syntax distinction, but the nature of this relationship or the reason for it, if any, is not at all clear as yet.

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CONCEPTS OF SYSTEM IN SCIENCE AND IN LINGUISTICS

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1. Questions of language and people

As linguists, our interest in language has often implied an interest in people. Actually, many of us are interested in language because of our interest in people. Questions of psychological and social reality have seemed pivotal. Recall the emphasis that Sapir placed on psychological factors, and the interest in social factors of Malinowski. These concerns are still with us. Sociolinguistics has become a recognized subdiscipline of linguistics. The depth hypothesis focused on memory and human language processing. Currently the word 'cognitive' figures in such widely divergent approaches as those of Sydney Lamb and Noam Chomsky.

Yet for more than a century we have discussed people not in their own terms, but in terms of language and grammar.

Why is this? Part of the blame, if blame it is rather than credit, rests on the continuing strength of the normative grammatical tradition in Western culture, which still has more influence on linguistics than we might care to admit. There is also the continuing influence of logic and the theory of knowledge, the parts of philosophy from which normative grammar was developed by the Stoics in the third and second centuries B.C.

These factors show up clearly in the sorts of intellectual tools that have traditionally been available. The concept of system used in the domain of logic and grammar is crucially different from the concept of system in the natural sciences, where one might expect to find studies of real-world objects such as people and sound waves. Both of these concepts of system will be familiar to you. Let me refresh your memory.

2. The concept of system in science

The word 'system', originally from the Greek, has come into English and a number of other languages with a general meaning of a group of interacting or interdependent items forming a unified whole. In science the term has a specialized technical sense.

In physics one might analyze a system of ropes and pulleys and calculate the mechanical advantage.

In chemistry one might speak of a system of several kinds of ions in solution at various concentrations and calculate a reaction rate.

In biology one might speak of an ecological system in a marsh and study the effects of introducing a new predator species.

The concept of system here is not just a way of speaking; it plays a precise technical role. A system is set up with arbitrary boundaries to cover an area of research interest and define it for analytic purposes. The arbitrariness of the boundaries is justified because a scientist is free to choose what he wishes to study.

However, the scientist tries to set the boundaries so as to recognize and respect the phenomena being investigated. In studying the nutrition of the human body, the physiologist might study the circulatory system, taking digestion into account only as inputs of nutrients to this system. Or he might set up an augmented system that includes the digestive system. The choice of system boundaries will be made so as to facilitate theory building or to highlight special research interests.

Since the properties of nature are independent of the point of view adopted in their description, the results of experimental or observational research expressed in terms of one set of system boundaries, inputs, and outputs, would often be translatable into other frameworks with different system boundaries better suited to other research purposes.

A system in science, then, is a construct of theory, the locus of defined system variables set up to characterize the phenomena in an explanatory way and to relate either directly or indirectly to observations and measurements. This is the power of the concept of system in science. It provides for formalization so as to allow the interrelation of different observations by means of reasoning and calculation, and it allows for prediction so that the theory can be tested against further observations and measurements. The formal theory provides a model of physical reality that can increase our insight and understanding of the phenomena.

The concept of system is thus a tool of analysis as we focus on the real-world objects under investigation in our continuing effort to improve our understanding of nature. It is a particularly powerful tool that is used productively in every physical and biological science.

3. Concepts of system in linguistics

Concepts of system have also been used in linguistics. A century and a half ago Rask considered linguistics to be a natural science and spoke of language in terms of system.[1] Schleicher, who tried to place linguistics on a solid scientific footing, summarized the comparative method as converting the juxtaposition of system into the sequence of history ("das Nebeneinander des Systems in das Nacheinander der Geschichte verwandeln") (1848:5).

But although we consider linguistics to be a science, the concept of system we have been using is quite different from the concept of system otherwise familiar in science. We speak of a phonological system, or of the morphological system of a given language. Sometimes language itself is spoken of as a system. Saussure characterized language as a system of signs that express ideas. Chomsky speaks of language as a system of rules relating sound and meaning, and Lamb has said that language is a system of relations.

We note immediately that the line between theory and the real world is not the same here as it is in science. Systems in science stand in the role of models or theories of reality. Grammar is sometimes taken as a theory of language, so presumably a phonological system, or a system of relations would be a system in the realm of grammar standing in the role of theory to the object language. Yet it is said that language <u>is</u> a system of signs or a system of rules or relations. Thus it is not clear whether the concept of system belongs in the domain of grammar as theory, or in the domain of language as the object that the theory is a theory of.

All becomes clear when we recall that grammar had its origin in an ancient theory of knowledge at the level of metatheory: the study of what we know about what we know about reality. In this view language is a representation of reality and exists at the level of theory, whereas grammar represents what we know about representations of reality and exists at the level of metatheory. This tradition, which is still alive, encourages the use of a concept of system for both language and grammar, for both reside in the logical domain. Linguistics does not deal at all with the physical domain. The things in the real world talked about are traditionally placed outside of linguistics.[2]

4. The traditional lack of a theory of people

Notice that in this traditional conception of linguistics there is also no place for the people who speak and understand. Concepts of language and grammar are associated with a theory of knowledge, not a theory of knowers, much less of speakers and listeners. Not only are people excluded as referents along with the rest of reality, there is not even a conceptual place for them

in the assumed theory of signs, of which grammar has traditionally formed a part.

Yet we are genuinely interested in people, and realize that proper explanations in linguistics must ultimately relate to people.

In attempting to study people, we have inevitably used the concepts of system associated with language. The neogrammarians in their influential manifesto said that there had been much too little investigation of the man who speaks. They called for a study of both the physical and mental aspects of the human speech mechanism, including the psychological factors at work in sound changes, innovations, and analogical formations (Osthoff and Brugmann 1878:iii,iv; Lehmann 1967:198); yet they did not in fact study people, as they had resolved to do. Instead they studied language.

Bloomfield rebelled at this, saying in effect, if you are going to study language anyway, drop the pretense of studying people, and for a generation we averted our eyes from people and shunned explanations.

Yet we sometimes say that people "have" a phonemic system, or contrasts. Or else we see people as language users, or as the perpetrators of speech acts. Or we say that people express meaning through language, or convey their thoughts to others by means of language. We sometimes presume that people have grammars in their heads that they use when they speak and understand. It is even sometimes claimed that language is an organ of the brain.

Throughout the history of linguistics the pendulum has swung between trying to study people by studying language, and trying to study language by leaving people out of consideration. Neither course is satisfactory.

In trying to study people by studying language we run into the psychological and social reality of grammar fallacies. People exist in the physical domain while language and grammar exist in the logical domain. Theories of objects in the physical domain are at the level of scientific theory, whereas theories of objects in the logical domain are at the level of metatheory. It is a fallacy to confuse the two (Yngve 1983). Under any standard linguistic definitions of language and grammar, it is a fallacy to speak of internal grammars as directing our speech and understanding, and language is not something that people can "use" when they talk.

In trying to study language without studying people, we run into the problem of not being able to explain the phenomena adequately, for the phenomena come from people. There is the additional difficulty of trying to relate concepts of language in

the logical domain to phenomena from people in the physical domain. Witness the problems that Chomsky has had with the concept of competence and the ideal speaker-listener who knows his language perfectly, for which no evidence can be obtained because of the idealization, and the difficulty he then has in accounting for what he calls performance.[3]

In both cases there is the problem that Bloomfield's fundamental assumption of linguistics, upon which the study of language rests, cannot be justified and therefore has no place in science. I pointed this out over three years ago at the University of Chicago and Northwestern University, and two years ago in a LACUS paper, which was subsequently published (Yngve 1983), and again last year (1984). No one has yet disputed the lack of justification. Since the burden always rests on those who would have us retain questionable assumptions in a science, I take this point as tentatively settled. Bloomfield's assumption or its equivalent can not be justified. This means that all attempts at a scientific approach through language and grammar are incoherent, including my own attempt of some years ago. If anyone still believes there can be a coherent scientific approach through language and grammar, that person should try to justify it. I predict he will find it can't be done.

5. Toward a coherent scientific linguistics

Fortunately we do have an option, and it is quite straightforward and easy to understand: we can shift to the scientific concept of system. If we do this, and if we avoid the cultural bias that grammar has imposed upon us, we can begin to focus on people directly, not through language or grammar. Linguistic theory then relates directly to real objects, people, individually and collectively, and theoretical statements in linguistics become testable against observations of real objects. Linguistics can then be based on scientific law instead of on opinion and a priori assumption (Yngve 1984).

As has been set out in earlier papers (e.g. Yngve 1975, 1984), there are two sorts of system defined in this type of linguistics. There are systems called communicating individuals that stand as theories of individual persons considered from the linguistic point of view. These are defined in terms of individual properties testable against observations of real persons. There are also systems called linkages that stand as theories of groups of people of all sizes, together with the sound waves and other relevant parts of the environment. These are also defined in terms of properties testable against observations of the corresponding real objects.

By this simple tactic of switching to a scientific concept of system and studying people directly, linguistics becomes scientifically coherent, and many of the problems that have

plagued the discipline are thereby eliminated. Let me show you three such cases where a human linguistics focused directly on people passes scientific tests against observational evidence whereas a traditionally based linguistics fails.

First, the traditional theory does not properly treat individual phenomena and social phenomena as different. It has never been clear whether language relates to the individual or to the community, and if to one, then how are we to treat the other? Chomsky's ideal speaker-listener chose to idealize the individual, thus the phenomena of the community, including variability, were not properly taken into account. Saussure's ideal of perfection focused on the collectivity, thus the phenomena of the uniqueness and variability of the individual were missed. In either case the single concept language could not simultaneously confront both the individual and the community. With a focus instead on people, we can treat both, separately and in relation to one another, while relegating ideals of perfection to normative grammars, dictionaries, and manuals of style.

Second, traditional theories and methods are inadequate for the treatment of the phenomena of variation, both in the individual and in the community. But in a linguistics focused directly on people, variation can easily be handled because individuals are defined in terms of properties. Variation in the individual in different social situations can easily be handled because this variation depends on changeable properties in the individual that are sensitive to the surroundings and constitute the salient context of situation for that individual. Since these contextual properties are internal to the individual, their effect on the communicative behavior of the individual can be modeled. Variation in the community in relation to social and cultural variables, including pidgin and creole situations, can also easily be treated, for different individuals can be the same in respect to some properties and different in respect to others, no two individuals being exactly alike. Observed linguistic behavior can not be scientifically understood without taking such variables into account, and they can only be taken into account properly in a human linguistics.

Third, the treatment of the context of situation as properties of individuals opens up a whole new dimension in syntactic, semantic, and pragmatic studies, where difficulties abound. Anaphora can be understood formally as reference to currently salient concepts represented in the properties of the individual. The study of discourse constraints now becomes a study of the constraints on communicative behavior of currently salient individual properties such as the topic of conversation and details of the context of situation. By abandoning problematic norms, ideals, uniformity, and the relation of sound to meaning, we can even treat metaphor, where the tradition would have a word standing for something it doesn't stand for. With a

focus directly on people it becomes clear how metaphor is relative to the individuals involved. A person's reaction to speech depends on his state at the moment as defined by his properties. And because communicative behavior is relative to the changeable properties of the individuals, it becomes scientifically clear through linguistics how beauty is in the eye of the beholder.

Many of us these days want to focus on people, on a psychological and social reality. We actually can focus on people if we adopt the program and methods of modern science and the standard scientific concept of system. There is little risk in experimenting with this option or building in this area because one does not have to embrace any linguistic ism or accept anyone's approach to grammar; one only needs to renew the resolve to search for scientific truth. The rewards for such work are potentially great, for, as Rasmus Rask said a century and a half ago in his lecture notes on linguistic science, (1830), it is "the highest triumph for the application of philosophy to nature" (i.e. natural science), "when with its help one can find out the true system in nature and show that it is the truth. Linnaeus. Newton."

NOTES

1. "Language is a natural object and the knowledge of it resembles natural history; it offers two objects for philosophical consideration 1) the relation between the individual natural things, i.e. the system 2) the construction of this body and what belongs to it, i.e. the physiology" (Rask 1830).

2. This view appears to have encouraged Bloomfield's gloomy conclusion that linguistics could not be a science until all the other sciences, dealing with the objects of reality, were close to perfection (1933:78).

3. This is of course related to the earlier problem with langue and parole, except that there the ideal of perfection was social, not individual: Saussure held that langue existed perfectly only in a collectivity.

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ON THE LANGUAGE SPECIFIC NATURE OF ARTICULATORY "FEATURE SPREADING": COMPARING FRENCH AND ENGLISH

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1. INTRODUCTION

This paper is part of a larger study which examines the variability of articulatory feature spreading across consonant boundaries by comparing subjects of two language groups and differing phonetic contexts.

In coarticulation research it is well known that features such as lip-rounding and nasality can extend beyond phoneme-size segments. Attempts to define the range of this feature spreading in terms of universal rules (e.g. Chomsky and Halle, 1968: 295; also Henke, 1966) or biomechanical time-windows (Bell-Berti and Harris, 1978; Gay, 1979) have had to deal with problems of variability: coarticulation has been shown to vary according to language, stress, point and mode of articulation and is in some cases sufficiently idiolectal to be useful in speaker identification (e.g. Su et al., Lubker et al., 1974; Lubker, 1981, Lubker and Gay, 1982).

Other attempts have taken syllable-size segments as basic integrating units for features and muscle gestures (e.g. Kozhevnikov and Chistovich, 1966; Lieberman et al., 1972). However reports on the transconsonantal interaction of some features have been taken by some as an indication that syllable models on the whole are inapplicable (Benguerel and Cowan, 1974; Öhman, 1966). On the other hand, these reports are somewhat at odds with a number of studies which show that in VCV sequences, where the vowels are both nasal or both rounded, velum or lip muscle activity is characteristically reduced during the production of the intervocalic consonants (Gay, 1978; McCallister, 1978; Bell-Berti and Harris, 1978; Lubker and Gay, 1982). In fact in some languages and for some articulators, intervocalic margins do limit feature spreading to syllable-size units (e.g. Ushijama and Hirose, 1974).

In short, from present research on coarticulation, it appears that there is no reason to abandon the view that syllable-size segments are in a probabilistic sense basic articulatory units. However syllable boundary effects cannot be assigned to CV sequences alone as Kozhevnikov and Chistovich (1966) had assumed - nor can they be described by universal rules.

As an alternative hypothesis, taking into account possible intervocalic constraints on feature spreading and the variability of these constraints within individual languages, we propose that syllabation habits tend to limit coarticulatory effects to either CV or VC sequences depending on the syllable patterns

favored in a given language.

To verify this general hypothesis we can resort to comparisons of languages known to have divergent modes of syllabation. French and English offer relatively good examples: Delattre (1965: 42) estimated that in English approximately 40% of "conventional syllables" (e.g. Delattre, 1966) end with a vowel while French contains 76%. The figures provided for French compare favorably to our own estimates of prepausal segments in the oral discourse of (13) French-Canadian unilinguals (from a sample of 4,000 prepausal segments, approximately 75% were vowels - Boucher, 1982: 74). There is reason to believe then that these syllable counts reflect a rather wide divergence in syllabation for the two languages: English tends to favor a "closed" syllable pattern while French favors an "open" pattern. Consequently, given certain contexts and if language-related syllabation habits do play a role in coarticulatory strategies, there should be a greater degree of CV coarticulation in French than in English and inversely there should be a greater degree of VC coarticulation in English than in French.

2. METHOD

An existing bank of high-speed (50 fps) lateral-view X-ray films was used along with simultaneous tape recordings. 14 subjects (7 French, 7 English) pronounced from 80 to 130 sentences in their native language. From this corpus, V_1CV_2 sequences were selected which could represent contrasting articulatory displacements for the following four articulators:

1) tongue-body
2) lower-lip
3) velum
4) mandible

To facilitate measurements for these variables, V_1CV_2 sequences were selected in which V_2 showed a greater degree of either lip-protrusion, tongue-body height or jaw lowering than V_1. As for velum height, V_1 and V_2 were both oral and C a nasal.

To measure some of the effects of stress, two series of V_1CV_2 contexts were selected in which either V_1 or V_2 were in stressed position. Intervocalic consonants were grouped according to <u>fricative</u> vs <u>stop</u> modes and <u>+ labial</u> vs <u>- labial</u> points of articulation (the <u>+ labial</u> category refers to labio-dentals and bilabials whereas the <u>- labial</u> category refers to all other points of articulation). The following list summarizes the V_1CV_2 contexts which were examined in the present study.

1. <u>For lower-lip protrusion</u>[1]:
   - $V_1 < V_2$ in lip-protrusion
   - C is { A. - LABIAL FRIC. e.g. [-**iso**-]
     { B. - LABIAL STOP. e.g. [-**atu**-]

1. Rounded [ʃ, ʒ] were omitted from contexts used in measuring lip-protrusion.

2. For tongue-body height:
   - $V_1 < V_2$ in tongue-height
   - C is { A. + LABIAL FRIC. e.g. [-əfi -]
     { B. + LABIAL STOP. e.g. [-əbi -]
3. For mandible height:
   - $V_1 < V_2$ in jaw lowering
   - C is { A. + LABIAL FRIC. e.g. [-əfa -]
     { B. + LABIAL STOP. e.g. [-əba-]
4. For velum height:
   - V_1 and V_2 are oral vowels
   - C is a nasal consonant e.g. [-ana-]

Measurements were taken for frames representing approximately (±2 cs) the mid-point of vowel or consonant durations. The displacement distances were calibrated to within 1 mm along the axes illustrated in Figure 1. Finally to relativize the data,

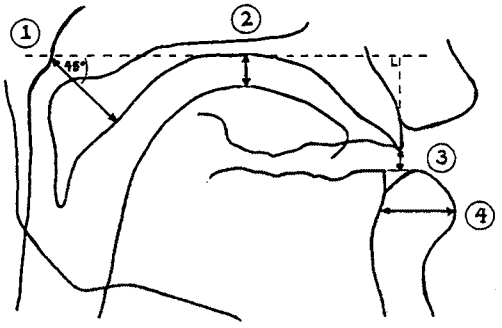

Fig. 1 Measurements of the four articulators:
1) velum lowering; 2) tongue-body height;
3) mandible height; 4) lower-lip protrusion.

proportions of change were calculated according to the total displacement of the articulator between V_1 and V_2. CV_2 coarticulation was defined as the ratio $\frac{C-V_1}{V_2-V_1}$ (therefore the complementary proportion $\frac{V_2-C}{V_2-V_1}$ represents V_1C coarticulation). For example, typical values for lip-protrusion in context 1.A. could be V_1 = 16 mm; C = 19 mm; V_2 = 20 mm. The proportion of CV_2 coarticulation would be calculated as $\frac{(19) - (16)}{(20) - (16)}$ or 75%.

3. RESULTS AND DISCUSSION

Assumptions of normality could not be met for the various distributions of CV_2 coarticulation consequently non-parametric Mann-Whitney U tests were used to compare French vs. English proportions of articulatory displacements. Significant dif-

ferences were observed in the following cases ($p < 0.08$ for a one tail test, $N = 7$):

- when V_2 is in stress position
  - lower-lip-protrusion
    - context 1.A. e.g. [- iso-]
    - context 1.B. e.g. [- atu-]
- when V_1 is in stress position
  - lower-lip-protrusion
    - context 1.A. e.g. [- iso-]
  - tongue-body height
    - context 2.B. e.g. [- əbi -]
  - velum height
    - e.g. [-ana-]

In all the above cases, the average proportions of CV_2 coarticulation were greater for the French group than for the English group (or, by reference to the complementary proportions, V_1C coarticulation was greater for the English group than for the French group). Our predictions would seem to hold true for certain intervocalic consonants in certain stressed environments. Consequently, prediction of coarticulation could require some reference to language-related syllabation effects.

4. CONCLUSION

The main problem addressed by coarticulation research could be stated simply by the question: "If features are not integrated in phoneme-size 'feature-bundles' then are there any other integrating units?" The results of this study show that, for certain phonetic contexts, a language which favors "open" syllable patterns would have more CV coarticulation and less VC coarticulation than a language which favors "closed" syllable patterns. This may provide some ground for adjusting existing phoneme-based models which have failed to describe anticipatory and retentive coarticulation (Kent and Minifie, 1977). Also, syllable-size units may present a viable framework for predicting coarticulation though these units do not limit feature spreading unequivocally in any universal pattern.

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THE ORIGIN AND FUNCTION OF NONLINGUISTIC ELEMENTS IN A LINGUISTIC CODE

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The language of the Russian epic song, the bylina, differs markedly from the spoken dialects of the performers. Archaic morphological and syntactic features, such as the use of the indefinite adjective in attributive position, are preserved in the bylina but not in speech otherwise. The choice of an archaic or modern ending in the bylina is effectively a choice of phonological shape (not one of contrasting morphology) determined entirely by the number of syllables needed to fit the metrical pattern. Utilization of such morphological and syntactical features for nonlinguistic ends has been demonstrated elsewhere.[1] In this paper I examine a similar phenomenon with regard to phonology.[2]

Many words in the bylina contain more vowels than they do in speech. The quality of these "inserted" vowels is not phonetically consistent, although those most frequently heard are similar to unaccented [i] and [ɨ]. The behavior of these vowels in breaking up consonant clusters suggests the hypothesis that they are in some sense reflexes of the "jers," lost in North Russian speech in the thirteenth century.[3] The aim of this paper is to present data which support the hypothesis that some inserted vowels in bylina originated from the jers and to determine their basic function.

Since published collections of the bylina have been edited to reflect the spoken language, and not the language of actual

Mne ne dórogi da tvoí zlaty seréžečki
Tol'ko dóroga mné da pravda istina
Ax zabrálse Čurila da v teplu spálenku

Figure 1. Published text without inserted vowels.

Mne ne dórogi da tvoí zlaty seréžečki
Toliko dóroga miné da pravida istinina
Ax zabrálise Čurila da v tepilu spáleniku

Figure 2. Text with inserted vowels, "i."

performance, there have been no texts available for adequate investigation of the problem. (See Figures 1 and 2, which show the same lines without and with inserted vowels. Ermolin, 37:17-19.) The data for this study consists of texts which I transcribed from tapes preserved in the phonogram-archives of the Institute of

Russian Literature in Leningrad. The recordings were made in 1955 and 1956 in the Pechora River area. The corpus is composed of 176 lines from Nikita Fedorovich Ermolin and 450 from Timofej Stepanovich Kuz'min.[4]

In some published collections of bylina a few lines of text are given along with the transcription of the melody to which they are sung, and these lines preserve the inserted vowels. Such lines were used by Bogatyrev in his investigation of inserted vowels.[5] He found that they occurred in all genres of folk songs, not only in Russian but in Ukrainian and White Russian as well. His is the most extensive study, but general statements about inserted vowels in folklore must be derived from comparison of analyses of their use by individual singers in texts of given genres. This kind of analysis requires extended texts, which were not available to Bogatyrev.

Bogatyrev and others have posited a relationship between inserted vowels and the jers but have not demonstrated it. Gilferding equated inserted vowels with the jers,[6] and Filatov implied their identity.[7] Karatygin stated that although they sometimes appear where there is no historical evidence for them, the inserted vowels are survivals of the jers.[8] Jakobson suggested that after the loss of the jers in Old Russian, inserted vowels could have been substituted for them to reestablish the syllabic structure of the verse line, which would have been disrupted with the fall of the jers.[9]

In Old Russian words tended toward a CVCV structure. This was the result of the simplification in Common Slavic of many of the consonant clusters inherited from Proto-Indoeuropean. With the loss of the jers new clusters were formed. Words in the bylina containing inserted vowels more closely approximate their syllabic structure before the fall of the jers. According to Ossovetskij the fact that the introduction of inserted vowels leads to a greater number of open syllables explains their appearance.[10] Open syllables are produced by inserted vowels but are not the primary reason for their occurrence.

60% of the words with inserted vowels in Ermolin's bylina and 56% in Kuz'min's occur between consonants originally separated by a jer.[11] These figures are based on the number of words with inserted vowels, not on the total number of their occurrences. While a high percentage of inserted vowels corresponds to original jers, a direct connection between them cannot be established unless the origin of the other inserted vowels can be determined.

Approximately two thirds of the non-etymological inserted vowels occur in clusters one member of which is an "r" or "l." This is twice the number of such clusters containing etymological inserted vowels. Therefore, the presence of these resonants can be identified as one of the factors which contributes to the

occurrence of inserted vowels in clusters without a jer.

Words containing inserted vowels not corresponding to a jer may be combined into several groups on the basis of similarity of the environment in which they appear. In one such group they occur between the consonants in the sequence: "e" or "o" followed by "r" or "l" followed by another consonant. (smert', pervyj, černyj, verx). Etymologically there was no jer in this position in standard Russian. But a peculiarity of the North Russian dialects of Ermolin and Kuz'min is that the jer before "r" and "l" followed by a consonant was repeated after the "r" and "l." This phenomenon is known as the second pleophony or second polnoglasie.[12] Spellings with jers on both sides of "r" and "l" are found in Old Russian manuscripts as early as the eleventh century, but the degree to which these spellings reflect the pronunciation is disputed. I follow Shevelov[13] and others who maintain that the spelling represents the actual pronunciation. Such spellings provide evidence that the inserted vowels in words such as these in the bylina occur where there was a jer in North Russian. Some of the words in this group are found in the dialects with "e" or "o" before and after the "l" or "r," also indicating that a jer occurred in both positions. Since in Common Slavic there was a jer before "r" and "l" in all the words of this group, we can assume that the second polnoglasie operated in them all and that the inserted vowels in this position in the bylina reflect lost jers.

An inserted vowel occurs between two "n's" in a few adjectives where etymologically there should be only one (pozverîninyj). Stems ending with "n" followed by the adjective suffix "jer n" produced a sequence of two "n's" in modern Russian. The presence of this sequence in the adjectives considered here is the result of the analogical transfer of "n jer n" from stems which ended with "n" to those which did not. Although the consonant cluster is not etymologically the correct one, the inserted vowels which occur in it do correspond to an historical jer.

The stems of the two nouns in this group end with "n" and the adjectives derived from them have the expected stem with two "n's." In the bylina the noun stems also contain two "n's," between which inserted vowels occur (îstinina, ûtreninja). The stems of the nouns have been reshaped by analogy to the adjective stems and the inserted vowels reflect an etymological jer.[14]

The simplification of certain consonant clusters, especially those in initial position, is a common phenomenon in Russian dialects. Simplification of a given cluster may be effected in different ways in different dialects, through epenthesis, prothesis, and various kinds of assimilation and dissimilation, with one or another means predominating in a given dialect. It would seem that in Ermolin's and Kuz'min's dialect as reflected in their bylina that epenthesis is preferred. This simplification of consonant

clusters by means of epenthetic vowels is the origin of the non-etymological inserted vowels in their bylina.

"st" clusters are among those simplified in some dialects, and a few of them contain inserted vowels in the bylina of Ermolin and Kuz'min.[15] (čista, xvastaet, sestra) Inserted vowels are also found in a small number of "sk" clusters (laska, naskoro). It is difficult to explain the simplification of the "st" clusters in the dialects and the appearance of inserted vowels in "st" and "sk" clusters in the bylina on phonetic grounds, but both must be the result of the same phenomenon.

The rest of the non-etymological inserted vowels occur in clusters ending in "r" or "l." Over half of them occur before the pretonic syllable (krutôj, glubôkij, klevûčij), four immediately follow the stressed syllable (rublêj, serebrô) and the rest immediately precede it (dôbryj, sâblju). The phonetic qualities of "r" and "l" have led to their vocalization in the dialects.[16] Clusters before the pretonic syllable are the ones most frequently affected. This development accounts for the appearance of the inserted vowels in "r" and "l" clusters in the bylina.

Almost 60% of the inserted vowels in the bylina studied have been shown to reflect etymological jers. The remainder are the result of phonetic developments in restricted environments in the dialects. No such restriction is observed when the inserted vowels appear where historically there was a jer.[17]

Although of different origins, inserted vowels which represent the jers preserved in the language of folk verse and inserted vowels which arose in the dialects are phonetically similar and function in the sane way in the metrical and melodic structure of bylina verse.

All Russian verse is organized on the principle of ordering stressed and unstressed syllables. Published texts have been used in previous studies of bylina meter, and a possible metrical role of inserted vowels could not be considered.[18] These analyses, mainly of bylina from the Onega region, have shown that the most common lines contain eleven to thirteen syllables, begin with an anacrusis of two unstressed syllables, and end with a dactylic close.[19] The first main stress occurs on the third syllable from the beginning of the line, and the last on the third syllable from the end. The second main stress occurs so that one, two, or three syllables separate the first and second main stresses. Any odd-numbered syllable may in principle be stressed, including the first in the anacrusis and the last in the close. Stress on even syllables, except in twelve syllable lines where the second main stress is on an even syllable, is sporadic and is subordinated to the adjacent main stress.

Line Length	Stress	Stress Distribution
11	3-5-9	- - ´ - ´ - - - ´ - -
12	3-6-10	- - ´ - - ´ - - - ´ - -
13	3-7-11	- - ´ - - - ´ - - - ´ - -

Figure 3. Meter of published texts of bylina.

To determine whether inserted vowels produce a more regular patterning of stressed and unstressed syllables and give lines of more consistent lengths, line length and stress placement in Ermolin's and Kuz'min's bylina were determined with and without inserted vowels. When the inserted vowels are excluded, the anacrusis and close have the characteristic bylina form, and typical line lengths range from twelve to fourteen syllables. The absence of an eleven syllable line and a typical line of fourteen syllables differentiate the bylina of Ermolin and Kuz'min from the Onega type. Another distinctive feature of their bylina is a thirteen syllable line with the second main stress on either the sixth or seventh syllable.

Line Length	Stress	Stress Distribution
13	3-6-11	- - ´ - - ´ - - - - ´ - -
14	3-7-12	- - ´ - - - ´ - - - - ´ - -
14	3-8-12	- - ´ - - - - ´ - - - ´ - -

Figure 4. Meter of Ermolin's and Kuz'min's bylina.

A quite different picture of the meter is produced when the inserted vowels are included. The anacrusis and close lose their stable form. There is a greater range of line lengths, from twelve to sixteen syllables, and the position of the second main stress becomes erratic. Inserted vowels obviously do not have a metrical function.[20] They are phonetically vowels, but in the metrical scheme they are not equivalent to either stressed or unstressed vowels. Since the metrical system utilizes phonological entities and the inserted vowels do not participate in that system, they are also not a part of the phonology.

Unlike the meter, where the inserted vowels can be disregarded in determining line length and stress placement, the melody must in some way accommodate them. In sung verse there must be a correlation of all the vowels of the verbal text with the individual notes which compose the melody.

The bylina of Ermolin and Kuz'min are accompanied by one-line melodies, i.e., the melodic line extends over only one text line and is repeated for each line of text. Like the melodies of other singers they have four primary musical accents. The first three usually coincide with the constant metrical word stresses on the third syllable from the beginning, the fifth, sixth, or seventh syllable depending on line length, and the third syllable from the line end. The fourth musical accent falls on the final syllable of the line independently of a stress on this syllable.

Trubetzkoy described the melody of the bylina as normally consisting of twelve parts, which he called "melodemes."[21] The first two melodemes comprise the anacrusis, the next seven the stem, and the last three the close. Melodemes are not necessarily of the same duration. The first melodeme of the stem has the strongest accent, the fourth has a secondary accent, and the second and sixth tertiary accents. In the close the stronger accent is on the first melodeme and a secondary accent on the last. Trubetzkoy also mentioned possible variations of melodemes such as lengthening, shortening, and omission, as well as a rhythmical balance between the duration of the stem and of the anacrusis and close. When the verse line contains twelve syllables, there is a one-to-one correspondence between melodemes and syllables. All melodemes can be "split" and thus correspond to two syllables, although there are usually only one to three such instances in a line. Trubetzkoy's discussion of the splitting of melodemes is in terms of text vowels. There is no reference to inserted vowels.

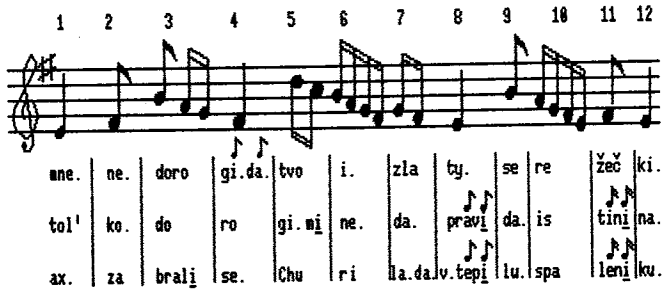

Figure 5. Melody and Melodemes. Ermolin, 37:17-19.

Melodemes in the bylina studied are normally split into two equal parts: a quarter note into two eighths, an eighth note into two sixteenths, etc.[22] A melodeme can correspond to one text vowel or it can be split and accommodate two text vowels. A melodeme can also be split by an inserted vowel, in which case the text vowel corresponds to the first note of the melodeme and the inserted vowel to the second. This restriction of inserted vowels to the second part of a melodeme again demonstrates the non-phonological nature of the inserted vowels, as was shown in the analysis of the meter.

Although all the melodemes in a line are subject to being split, some are split more frequently by inserted vowels than others. The eighth melodeme has one of the highest incidences of inserted vowels in Ermolin's and Kuz'min's bylina. The duration of this melodeme is a quarter note, manifested by two eighth notes of different pitches in Kuz'min's melodies and in one of Ermolin's. It is split not only by inserted vowels in the other melody of Ermolin but also by the vocalization of a diphthong, repetition of the text vowel or by changing the quality of the text vowel. The features of this melodeme, notes of different pitches or a tendency to replace a quarter note by two eighths, seem to be conducive to the appearance of inserted vowels.

That notes of different pitches in a melodeme enhance the possibility of occurrence of inserted vowels is supported by the fact that Ermolin splits the third melodeme more often than the eighth. The third melodeme has notes of different pitches, while there is only one pitch in the eighth.

The duration of a melodeme also seems to be a factor in the occurrence of inserted vowels. The tenth melodeme is very often split in one of Kuz'min's melodies but rarely in the others, although the notes in each of them are of different pitches. The eighth notes of the frequently split melodeme contrast with the quarter notes of the other. The non-phonological nature of inserted vowels seems to preclude their occurrence with notes longer than an eighth.

When consonant clusters which originally contained a jer or clusters which are subject to simplification in the dialects occur in appropriate positions with regard to the melody, an inserted vowel <u>may</u> appear. This is evident from the fact that inserted vowels are found in all melodemes. However, the appearance of inserted vowels seems to be facilitated by the properties of certain melodemes, especially those made up of two notes of different pitches or of a quarter note which tends to be split into two eighths of the same pitch.

The primary function of inserted vowels is a stylistic one. They add phonetic syllables to a line and thereby increase the number of notes in the melody or enhance the perceptibility of notes which without inserted vowels would be sung to a single text vowel. The phenomenon of inserted vowels is part of the overall development of the bylina melody in the Pechora region, which under the influence of the melodies of lyric songs and other genres has itself acquired a more song-like quality.[23] Inserted vowels have facilitated this change.

Inserted vowels are not part of the phonology of the singers' dialects. This is demonstrated by the fact that they do not participate in the metrical system of the bylina and that they can

function only in an auxiliary capacity in the melody to which they are sung. Moreover, assimilation of voice seems to occur even when two consonants are separated by an inserted vowel. Inserted vowels exist in the medium of a linguistic code but are not part of the phonological system which makes up part of that code.

Although some inserted vowels are the result of phonetic and analogical changes in the singers' dialects, the majority of them developed from those jers which lost the ability to function in the vocalic system of Old Russian. This development may have occurred to maintain the syllabic structure of the verse line. If so, the line was later reshaped in such a way that the inserted vowels became metrically superfluous. However, they were not discarded but were retained in a supporting role in the melody. They and the more recently developed epenthetic vowels provide vocal material to make more prominent discrete parts of the melody and to vary the melodic line.[24]

NOTES AND REFERENCES

1. Jones, Roy G. 1972. Language and Prosody of the Russian Folk Epic. The Hague: Mouton.

2. Research for this project was supported by a grant from the Dean of Humanities of Rice University and by the International Research and Exchanges Board.

3. Inserted vowels occur in clusters within a word and in those formed when a word ends in a consonant and the following word begins with a consonant. Only those within a word are pertinent for comparing inserted vowels and jers since in Old Russian all words ended in a jer or another vowel.

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7. Filatov, K. 1897. "Očerk narodnyx govorov voronežskoj gubernii." Russkij filologičeskij vestnik. 3&4. Warsaw. 266-267.

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9. Jakobson, R.O. 1962. O sootnošenii meždu pesennoj i razgovornoj narodnoj reč'ju." Voprosy jazykoznanija. No. 3, 89.

10. Ossoveckij, I.A. 1958. "Jazyk fol'klora i dialekt. Osnovnye problemy èposa vostočnyx slavjan. Moscow. AN USSR. 181. Quoted in Bogatyrev, 384.

11. Inserted vowels in consonant clusters with etymological jers:

slavinyj	sobiralise	mine	strelika
stolinyj	razulise	vise	šapocika
krasinyj	zabralise	kinjaz'	šutika

12. Kolesov, V.V. 1963. "Razvitie vtorogo polnoglasiya v russkix severo-zapadnyx govorax." Issledovanija po grammatike russkogo jazyka. Učenye zapiski. LGU: Leningrad. 148-159.

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14. Kuznecov, P.S. 1953. Istoričeskaja grammatika russogo jazyka. Moscow. 163.

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16. Burova, E.G. 1982. "Glasnye vstavki v nacal'nyx gruppax soglasnyx v russkix govorax." Dialektologija i lingvogeografija russkogo jazyka. Moscow: Nauka. 92-99.

17. In some instances an inserted vowel may occur in a cluster which historically contained a jer and also where simplification of clusters occurs in the dialects.

18. Jones, 16-44. Also: Jakobson, Roman. 1952. "Studies in Comparative Slavic Metrics." Oxford Slavonic Papers, III. Oxford: Clarendon Press. 21-66. Bailey, James. 1973. "The Epic Meters of T.G. Rjabinin as collected by A.F. Gil'ferding." American Contributions to the Seventh International Congress of Slavists. The Hauge: Mouton. 9-31.

19. The meter of Rjabinin's bylina numbers 73, 81 and 84 differs from that of his other bylina. The difference is sufficiently great in number 73 to constitute a separate meter. See Jones, 46.

20. But see: Filatov 267, Bogatyrev 388 and Seliščev, A. 1927. "Zametki po velikorusskoj dialektologii," Slavia. Casopis pro slovanskou filogii. VI. Prague. 459. They propose a rhythmic function for inserted vowels.

21. Trubezkoy, N.S. 1939. "W sprawie wiersza byliny rosyjskiej." Prace ofiarowane Kazimierzowi Woycickiemu. Z zagadnieu poetyki. Wilno. 100-110. See also Maslov, A.L. 1911. "Byliny, ix proizxoždenie, ritmečeskij i melodičeskij sklad." Trudy Muzykal'noêtrografičeskoj komisii. Moscow. 301-327.

22. In a melodeme consisting of four sixteenth notes, the vowel splitting the melodeme may correspond to the last sixteenth note.

23. Dobrovol'skij, B.M. and V.V. Korguzalov. 1981. Byliny. Russkij muzykal'nyj èpos. Moscow: Soveckij kompozitor. 24.

24. See Bogatyrev, 392.

INTONATION AND NEUTRALIZATION
RESULTS FROM A LISTENING EXPERIMENT

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Talking of neutralization, one has usually stock examples in mind like the opposition of /d/ and /t/ in German, which is neutralized under /t/ in final position. Troubetzkoy, who deals with this problem in his 'Principles of Phonology', lists two basic cases of neutralization: (1) If you have an opposition of two phonemes A and B, and this opposition is neutralized under certain conditions, the resultant realization will be a phoneme C which is neither A nor B; (2) Either one of the opposed phonemes can occur in the neutralized position. In the latter case, we talk of a neutralization under A or B, respectively. Since this is true for neutralization in the field of segmental phonology, is it possible to talk of neutralization in the field of suprasegmental phonology? I think it is.

Since we apply the same methods to intonation as to segmental phonology, we come to the conclusion that intonation too has phonological structure. This method has first been applied to intonation by Pike (1943) and has been further developed by Pilch (1980). I will restrict myself only to the basics of the model as far as it is needed here. We listen to intonation elements and classify them as same or different. By establishing equivalences we draw up the inventory of intonational elements, setting up this hierarchy and distribution with neutralization etc.

For the English language we arrive at four different pitch patterns with several modifications which I will not list here. The citation of a single word has by definition one pitch pattern. On the word level this is known as stress, since stress always involves a rather strong change of pitch. Longer utterances form intonation contours in which the place with the widest change of pitch is classified as the nucleus. The nucleus can be preceded by the pre-contour and followed by the post-contour, both of which can contain further pitch patterns. The language material between the pre-contour pitch pattern and the nucleus is in the proclitic position. The material in this position is usually spoken rather fast and with a flat and rather low pitch. The same applies to the material following the nucleus, and is said to be in enclitic position.

Our problem was whether and how the stress pattern of a single word in its lexical intonation (i.e. with the stress pattern of the lexeme) would be changed if it occurred in clitic position. In this position we would expect no pitch differentiation; therefore

the lexical stresses could not be heard.

As test material we took English minimal stress pairs like *ímpact* (noun) and *impáct* (verb) which form oppositions when they occur as single words or in nucleus position. By listening to spoken discourse of native speakers we arrived at the hypothesis that their opposition was neutralized when they occurred in proclitic or enclitic position and verbs and nouns could not be distinguished.

In order to test this hypothesis, which was based on an ad hoc auditory judgement, we set up a listening test. We tested several of these word pairs, but I will only present one of them and I will only deal with the proclitic position.

We constructed tests with the result that each word pair occurred in one test sentence in the following positions:

A: Nuclear position - verb
B: " " - noun
C: Proclitic " - verb
D: " " - noun

By different contexts and by underlining the desired nucleus we made it clear to our speakers of the test material how to read the texts. The texts were then read by several English native speakers. The words to be tested were in identical phonetic contexts and could then be extracted for our listening experiment. The whole test sentences for the *ímpact* ≠ *impáct* pair were:

A: Nuclear position, verb: The Germans *impáct* sinks again.
B: " " noun: The German's *ímpact* sinks again.
C: Proclitic " verb: The Germans impact *sinks* again.
D: " " noun: The German's impact *sinks* again.

We presented the test sentences C and D to three phonetically trained English subjects. They were asked whether they heard the first or the second syllable of our test words as stressed. Their comments on this test showed that they found it difficult in 96% of all test words to make a decision for either the noun or the verb pattern, but no other choice was allowed.

I expected from my hypothesis that the results would roughly yield 50% as nouns and 50% as verbs, but in most cases the answers of the listeners would not coincide with the word class the speakers had intended to produce. The results showed, however, that all three listeners unanimously could identify 48% of the intended stress patterns correctly, but more nouns than verbs. This leaves 52% of all test words where they could not agree on one pattern.

These cases were listed as listening variants. (This term is my translation of the German "Abhörvarianted" from E. Zwirner / K. Zwirner [1982].)

An over-all analysis of all answers showed that listeners heard 75% of all test words as nouns and only 25% as verbs. A statistical analysis of the results showed that they were highly significant. Since the listeners obviously judged the great majority of all test words as nouns and only few as verbs, we could have come to the conclusion that our hypothesis was refuted and that we have a neutralization under the noun pattern instead. But listening ourselves to the test sentences showed that only 5% of the test words could be judged as either nouns or verbs; the rest was difficult to distinguish. By merely looking at the STATISTICAL RESULTS it was tempting to come to a different conclusion, that is, neutralization under the noun pattern. But this is not sufficient if we work in the field of phonetics. What is it THEN that statistics tell us? It only tells us that the results are inherently consistent and are not created by chance. But it does not tell us what our listeners actually heard, nor does it tell us that we have neutralization under the noun pattern. We had 52% listening variants. It is strange to have a majority of non-agreements among trained phoneticians and a statistical result which clearly favors the noun pattern. We decided therefore to trust more to our own hearing and sought to find a linguistic explanation for the preference for the noun pattern.

By linguistic explanation I mean a structural characteristic of the language under study. It is well known that there is no such thing as objective listening or hearing. Hearing is, linguistically speaking, the correlation of an auditory impression with classes of linguistic units. This means we have to know the language to which we listen and since the linguistic units are language specific, it seems obvious that language specific factors influence our auditory categorization.

In case of the absence of clear auditory cues, and in the situation of a FORCED-CHOICE TEST, it seems obvious that we will encounter what Studdert-Kennedy and Hadding (1973) called "perceptual correction", and they explained it as follows: "Perceptual correction ... will presumably not occur if the lower decision is firm ... the precise form of the phonetic ILLUSION is determined, not by the acoustic conditions alone, but also by higher-order linguistic constraints ... the auditory level is not independent of higher levels but is an integral part of the process by which we construct our perceptions of spoken lamguage."

For the case of word stress we found a more specific quotation in Lehiste, Suprasegmentals (1970), where she says: "The speaker 'knows' which syllable he has stressed; the listenr uses his knowledge of the language in addition to the phonetic cues present in the sound wave to determine which syllable is stressed." This

clearly indicates that listeners' judgements have to be correlated with the analysis of the sound wave and with the structural characteristics of the language.

In addition to the listening test, we also carried out an extensive acoustic analysis, the results of which were published by myself (Koberné [1982]). Therefore I need not give the details here. In brief, we could not find any evidence for the preference of the noun pattern in the sound wave.

After all, we came to the conclusion that this preference was due to a regular stress shift in the English language. It can be shown that if the nucleus is moved to the right, the stress preceding the nucleus falls on the second syllable before the nucleus, like the examples:

black 'bird	but	,black bird 'hunting
off 'shore	"	,off shore 'wind
Mi'ami	"	,Miami 'Beach

This shift would favor a stress on the first syllable of our test words, i.e. the noun pattern. But since we made sure that the pre-contour pitch pattern was on the word before our test words, it indicates that our listeners expected it to be on the first syllable of the test words and therefore preferred the noun pattern over the verb pattern.

Over-all, this shows that only in the light of competent listening is it possible to evaluate statistical results in linguistics properly. A so-called modern school of phonetics which relies heavily on machines and computations does not necessarily bring us any further.

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FIRTHIAN PROSODIES AND STRATIFICATIONAL PHONOLOGY

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0. INTRODUCTION.

Lockwood 1972 devotes a short section to the discussion of the relationship of Firthian prosodic phonology to the stratificational model (261-263). After a brief illustration of the usefulness of a prosodic approach for some Old Russian material, it is concluded that 'to the extent that they enhance the simplicity of the overall statement...prosodic analyses may be appropriate in stratificational theory' (263).

The present paper is devoted to an elaboration and clarification of that point. It seeks to define what we may term a stratificational prosody (S-prosody) and to compare and contrast it with the Firthian prosody (F-prosody). As an illustration of some of the differences between the two, it presents an S-prosodic treatment of the vowel harmony system of Nez Percé, an American Indian language of the Northwestern United States.

1. DEFINING PROSODIES.

An S-prosody may be defined as follows:

(a) It has the potential of pertaining to a sequence of two or more phonological segments, and
(b) It is treatable formally in an unordered AND relationship to the sequence involved.

This kind of relationship is depicted graphically in Figure 1.

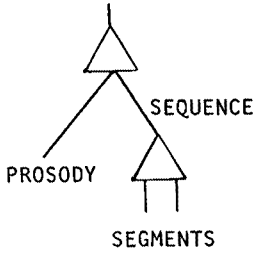

FIGURE 1. *AN S-PROSODY.*

An F-prosody can be seen as having property (a) without necessarily sharing property (b). The clearest theoretical statement defining F-prosodies is found in the work of Robins: 'Prosodies...are, by definition, of more than one segment in scope or domain of relevance, and may in fact belong to structures of any length' (1957:267). Extensive discussion and exemplification of these prosodies in general is found in Palmer 1970.

2. FIRTHIAN vs. STRATIFICATIONAL PROSODIES.

Two rather specific differences between F-prosodies and S-prosodies follow rather directly from the definitions in section 1. These are summarized in statements A and B of Table I.

To illustrate statement A, we need only recognize that Firth and his followers saw syllable patterns as properties of syllables,

and therefore prosodies by their definition. In a stratificational model, on the other hand, the concept of phonotactics is available to deal with these and other tactic facts. Since syllable types are automatically handled there, there is no need to recognize them as separately abstracted syllable prosodies.

TABLE I. *BASIC DIFFERENCES BETWEEN FIRTHIAN AND STRATIFICATIONAL PROSODIES.*

A. Some F-prosodies are simply properties of the phonotactics, so they do not correspond to S-prosodies.

B. F-prosodies representing boundaries or properties associated with boundaries do not correspond to S-prosodies. The tactic pattern alone is generally sufficient to deal with their peculiarities as a matter of distribution.

C. S-prosodies can appear at different stratal levels, and discrepancies concerning their appearance and domain may occur. F-prosodies may appear at different ranks, but the Firthian model provides no place for different strata within the phonological system.

D. S-prosodies regularly contrast with their absence in a marked vs. unmarked fashion. The usual F-prosodic practice uses marked prosodies everywhere.

E. Unlike F-phonology, S-phonology adheres to the principle of distinctiveness. This principle establishes a biuniqueness requirement upon the relation between phonetic and phonological representations, which is not always found in F-prosodic schemes. Further, this principle disallows the recognition of non-distinctive elements as phonological prosodies, although there may be further prosodies on the phonetic level in some S-phonological models.

Statement B means that only properties realizable over a sequence of segments (whether continuously or discontinuously) will be treated as S-prosodies. Boundary phonemena clearly relate to longer sequences, but their properties are sufficiently treated by the phonotactics. The treatment of boundaries as elements of the phoneme system (to the extent that they are contrastive) in stratificational phonology is generally in accord with the practice of Neo-Bloomfieldians in their recognition of junctural phonemes (e.g. Trager & Smith 1951). As an example of properties simply associated with boundaries which Firth viewed as prosodies by virtue of their distributional peculiarities, one can cite English /h/ and /ə/, which he treated as prosodies rather than phonematic units (1948:263).

The distinction summarized in Statement C relates to the occurrence of prosodies at different stratal levels. Firthian phonologists have emphasized the POLYSYSTEMIC nature of their model, which causes them to recognize separate inventories of elements at different positions and often for different portions of the vocabulary. At the same time, their model of phonology appears

to be MONOSTRATAL. Lyons, in fact, has claimed its lack of such distinct levels as the phonemic and morphophonemic to be a virtue of this approach (1962:279). The Turkish material in item A of Table II exemplifies this distinction. The first column shows Lyons's prosodically-based transcription of the Turkish word /gözüm/ MY EYE. This shows the prosodies FRONT and ROUNDED[1] written word-initially: they are predictably applicable to both syllables of the whole word in this case. The pair of columns labeled STRATIFICATIONAL has a bistratal treatment of the same example, with differing domains of the prosodies on the morphonic (i.e. morphophonemic) level, where both prosodies are associated with the root alone, vs. the phonemic level, where they are spread over the entire word. In a stratificational treatment, these differences result from the fact that the prosodies are specified for morphemic signs (the combinations of morphophonemes representing morphemes) in the morphology, but the phonotactics requires that prosodies of this sort occur over a longer stretch, which is equivalent to the entire phonological word in this case.[2]

TABLE II. *SOME TREATMENTS OF TURKISH VOWEL HARMONY.*

	FIRTHIAN	STRATIFICATIONAL		C-PHONEMIC	GLOSS
A.	FRgazim	MN/ F / R / gaz im/	P/ F / R / gazim/	/gözüm/	MY EYE
B.	FNavim	MN/ F / av im/	P/ F / avim/	/evim/	MY HOUSE
C.	BRkalim	MN/ R / kal im/	P/ R / kalim/	/kolum/	MY ARM
D.	BNadamim	MN/adam im/	P/adamim/	/adamɨm/	MY MAN

Statement D is illustrated by some other items in Lyons's Turkish material, as in items B-D of Table II. The Firthian treatment uses two prosodies for every one of the words, whereas the stratificational treatment recognizes only the two marked prosodies FRONT and ROUNDED, each of which can contrast with its absence for a total of four possibilities.[3]

The biuniqueness aspect of Statement E is exemplified in the more extended discussion in section 3 below. Examples of the non-distinctive prosodies recognized in some Firthian treatments include the non-release of Thai final stops (Henderson 1949:31), and the predictably-initial accent of Czech (Robins 1957:269).

3. AN S-PROSODIC TREATMENT OF NEZ PERCÉ VOWEL HARMONY.

3.1 THE DATA.

The vowel harmony system of Nez Percé, an American Indian language spoken principally in Idaho (Aoki 1970:4), is of considerable interest, since it is of the DOMINANT/RECESSIVE type, which is otherwise attested only a a few Paleosiberian languages such as Chukchi (Skorik 1968) and some Nilotic languages of East Africa (Hall & Hall 1980). It is also known because its harmonic

system cannot be captured by any single phonetic dimension such as FRONT/BACK, ROUNDED/UNROUNDED, or RAISED/LOWERED.

The essential feature of a dominant/recessive harmony system is that the morphemes of the language are divided into two groups, the dominant and the recessive, each associated with a particular set of vowel qualities. The recessive qualities show up only when all morphemes in the word, or other pertinent harmonic stretch,[4] are recessive. When any of the morphemes in the word is dominant, all vowels assume their dominant forms. So dominant morphemes do not show vowel alternations in the vowel harmony system, while recessive morphemes typically do alternate.

The basic vowel system of Nez Percé, arranged according to harmonic properties, is shown in Table III. Note that the vowel /i/ can be either in the dominant or the recessive class, while recessive /e/ and /u/ correspond to dominant /a/ and /o/, respectively.

TABLE III. *NEZ PERCÉ VOWELS*

DOMINANT	i	a	o
Recessive	i	e	u

Table IV the presents some illustrations of harmonic alternations in this language. Sections A through D show dimorphemic constructions with roots and affixes of various types. The examples numbered (1) in sections A and C illustrate two important points. First, the root morphemes there differ in harmonic class, though each contains only a single vowel /i/, which itself shows no harmonic variation. Second, the recessive prefix in these items illustrates the alternation of /a/ and /e/. Section E shows some longer examples. Note that the first two of these illustrate the alternation between dominant /o/ and recessive /u/ in two forms of the morpheme meaning FIVE.

Table V presents a phononic analysis of the vowel inventory,[5] while Table VI shows a basic scheme for the morphonic representation of the vowels, positioning them in a manner parallel to that used in Table III.

TABLE V. *PHONONIC ANALYSIS OF NEZ PERCÉ VOWELS*

	Fr		Bk	
Vo	i		u	Hi
	e	a	o	

TABLE VI. *MORPHONIC REPRESENTATION OF DOMINANT vs. RECESSIVE*

DOMINANT	Dm i	Dm e	Dm u
Recessive	i	e	u

The dominant morphemes in the data will have the following morphonic representations:

$^{MN}/\frac{Dm}{\text{ʔeyn}}/$ FOR, $^{MN}/\frac{Dm}{\text{leykin}}/$ NEAR, $^{MN}/\frac{Dm}{\text{cí·c}}/$ PATERNAL AUNT, $^{MN}/\frac{Dm}{\text{tú·t}}/$ FATHER, $^{MN}/\frac{Dm}{\text{cewítk}}/$ WILD CARROT, $^{MN}/\frac{Dm}{\text{lé·qe}}/$ PINE TREE, $^{MN}/\frac{Dm}{\text{mit}}/$ THREE, and $^{MN}/\frac{Dm}{\text{ʔé·t}}/$ GO OUT. It should be noted that the dominance element in these morphemes (Dm) is treated as a property of the entire morphemic sign rather than of the individual vowel ele-

TABLE IV. *EXAMPLES OF NEZ PERCÉ VOWEL HARMONY*

A. Recessive root with recessive affix

1.	ne?	?í·c	ne?í·c (1966:762)[6]
	MY	MOTHER	MY MOTHER
2.	tí·we	ce	tí·wece(1970:81)
	SMELL BAD	SINGULAR	I SMELL BAD

B. Recessive root with dominant affix (dominants underlined)

1.	tu?ynú	<u>'ayn</u>	to?ynó?ayn(1970:71)
	TAIL	<u>FOR</u>	FOR A TAIL
2.	tísqe?	<u>laykin</u>	tísqa?laykin (1966:760)
	SKUNK	<u>NEAR</u>	NEAR A SKUNK

C. Dominant root with recessive affix

1.	ne?	<u>cí·c</u>	na?cí·c(1966:762)
	MY	<u>PATERNAL AUNT</u>	MY PATERNAL AUNT
2.	<u>tó·t</u>	e?	tó·ta?(1966:759)
	<u>FATHER</u>	VOCATIVE	FATHER!

D. Dominant root with dominant affix

1.	<u>cawitk</u>	<u>'áyn</u>	cawitk'áyn(1970:41)
	<u>WILD CARROT</u>	<u>FOR</u>	FOR WILD CARROT
2.	<u>lá·qa</u>	<u>laykin</u>	lá·qalaykin(1970:77)
	<u>PINE TREE</u>	<u>NEAR</u>	NEAR A PINE TREE

E. Polymorphemic examples

1.	?uy	<u>mit</u>	e?éptit	?oymita?áptit(1970:59)
	FIVE	<u>THREE</u>	TEN TIMES	EIGHTY
2.	?uy	né·p	we	?uyné·pwe(1970:59)
	FIVE	TWO	PERSONAL MKR	SEVEN (PEOPLE)
3.	ne?	<u>tó·t</u>	eyu·	na?tó·tayo·(1970:59)
	MY	<u>FATHER</u>	AND OTHERS	MY FATHER AND OTHERS
4.	<u>?á·t</u>	se	qe	?á·tsaqa(1966:760)
	<u>GO OUT</u>	SINGULAR	RECENT PAST	I WENT OUT RECENTLY

ment. Then only three vowels--^{MN}/i e u/--are required. The recessive morphemes in the data are represented as follows: ^{MN}/?í·c/ MOTHER, ^{MN}/tí·we/ SMELL BAD, ^{MN}/tu?ynú/ TAIL, ^{MN}/tísqe?/ SKUNK, ^{MN}/?uy/ FIVE, ^{MN}/ne?/ MY, ^{MN}/ce/ or ^{MN}/se/ SINGULAR, ^{MN}/e?/ VOCATIVE, ^{MN}/e?éptit/ TEN TIMES, ^{MN}/we/ PERSONAL MARKER, ^{MN}/eyu·/ AND OTHERS, and ^{MN}/qe/ RECENT PAST.[7]

3.2 <u>FORMALIZATION</u>.

A formal treatment of this vowel system depends first of all on the principle that the dominance element can be accommodated only once in a phonological word. If the morphonic representation

of a word contains more than one token of the dominance element, any extra tokens will be realized as zero. The realized dominance element, in any case, determines the choice of a DOMINANT PHONOLOGICAL WORD in the phonotactics, while its absence requires the selection of the RECESSIVE PHONOLOGICAL WORD. This much is summarized in the box labeled (a) in Figure 2. There the element ^{P}/+/ marks the beginning of a new phonological word, as determined by the morphology via the insertion of a morphological juncture element. The zero path from the dominance morphon allows for the zero realizations of any extra tokens of this element.

The portion of Figure 2 labeled (b) shows the syllable nucleus, which involves an automatic occurrence of the vocalic element ^{P}/Vo/ for any nucleus, along with one of the three phonemes ^{P}/i e u/. Since ^{P}/i/ is not affected by vowel harmony, it is always realized as ^{P}/Hi/ (High) together with ^{P}/Fr/ (Front). The phoneme ^{P}/u/, however, is realized as ^{P}/Hi/ and ^{P}/Bk/ (Back) in the absence of dominance, but as ^{P}/Bk/ alone when dominance occurs. Finally, ^{P}/e/ is realized as ^{P}/Fr/ in the absence of dominance, but otherwise as nothing, giving the equivalent of /a/ when the occurrence of ^{P}/Vo/ is taken into account. Note that a single conditioning line specifies the zero realization for either alternation. The two alternations differ only in the recessive realizations.

The remainder of the diagram provides additional structures needed to unite (a) and (b) into an integrated whole. First of all, there is a potentially repeatable syllable structure, the minimum that would have to appear between the word and the nucleus level.[8] Further, the difference between the dominant and recessive word types is shown to involve the occurrence with the former of a conditioning structure (shown in dashed lines) affecting the vowel alternations. Finally, a shaded upper semicircle is shown on the conditioning line. This is a CONCORD ELEMENT, intended to make the conditioning signal available as many times as it might be needed.[9]

3.3 IMPLICATIONS.

This section is intended to show how statements C-E of Table I are illustrated by the solution presented in sections 3.1 and 3.2.

With respect to point C, this account amply illustrates the notion of S-prosodies with different domains at different stratal levels. The morphon of dominance is a property of a particular morphemic sign. The corresponding phonemic element involves the selection of a dominant phonological word, so it applies to the whole word containing the realization of the original morphemic sign. This is a discrepancy between the two levels, and there can also be cases of zero realization of the dominance element when it is supplied redundantly. Lower in the phonological system, furthermore, dominance is clearly not a prosody at all, but merely a conditioning effect.

With respect to point D, it can clearly be seen that only dominance is treated as a prosody, recessiveness being simply the

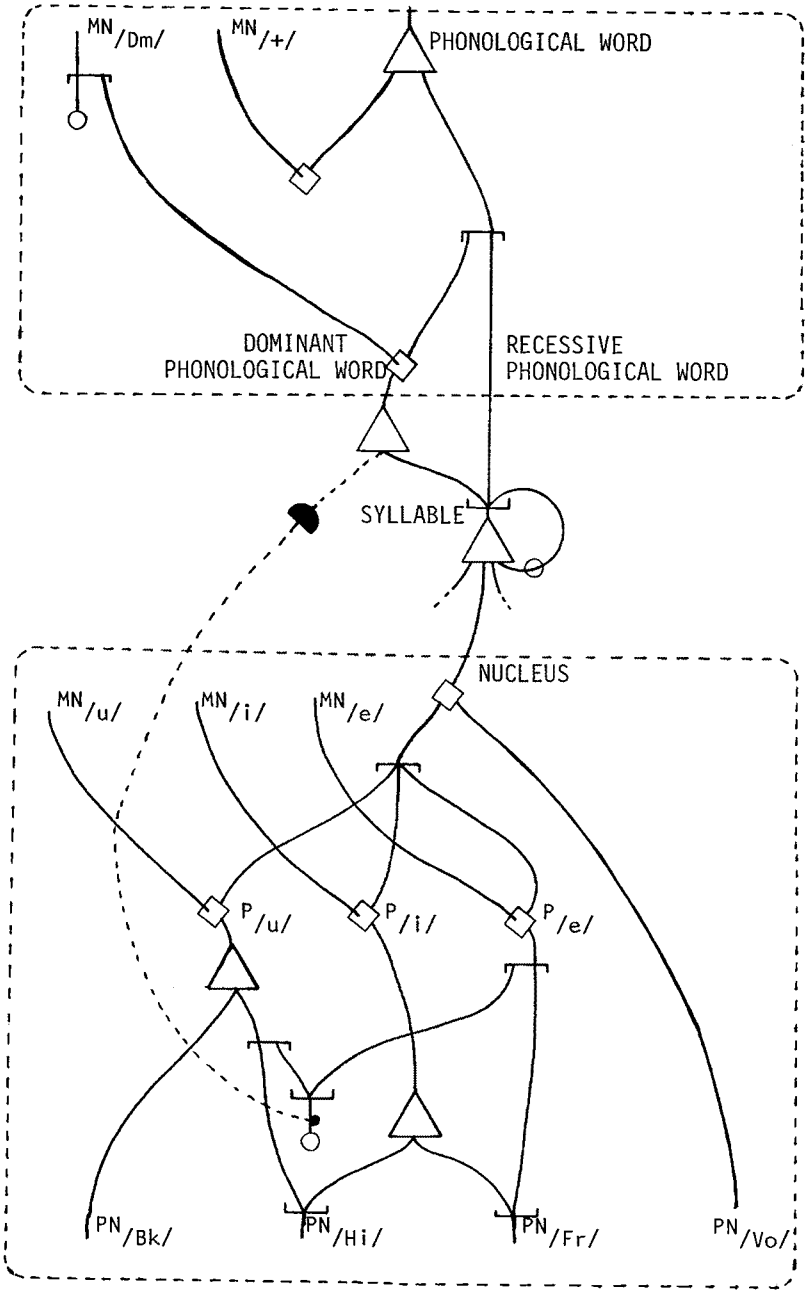

FIGURE 2. *VOWEL HARMONY IN NEZ PERCÉ PHONOLOGY*

absence of dominance. This gives further illustration of the marked/unmarked principle illustrated previously with the Turkish material of Table II.

Finally, this material also illustrates the consequences of the need to adhere to the distinctiveness principle in its biuniqueness aspect, as discussed in Statement E. This consideration is the major reason why this treatment is of a different sort than that suggested less formally for the Turkish material in Table II. For Turkish it is appropriate to use prosodies throughout the phonemic stratal system, since any prosody will show a realization on any syllable with which it is associated. In Nez Percé, however, it can be seen that morphemes containing ^{P}/i/ will be dominant or recessive even though the quality of that vowel is not affected. Further, it is perfectly possible for a word to contain only tokens of ^{P}/i/ among its vowels, as is demonstrated by such examples as /ʔískit/ TRAIL(42), /ʔimímkiṅik FROM YOU(76), /ʔimsí·s/ YOUR PATERNAL AUNT(44).[10] The last of these examples contains a dominant root, as is suggested by the underline, while the others contain only recessive morphemes. Since dominance has no effect is such cases, no dominance element should be present at the lowest level of phonological representation, in order to guarantee the biunique nature of this level in relation to phonetics. In the account presented above, this follows automatically, since phonological dominance is only a conditioning effect called upon where needed. In a Firthian account, it may be presumed, one would have to recognize a prosodic difference in such a case despite its lack of effect.

4. CONCLUDING REMARKS.

In summary, this paper has attempted to point out some of the important distinctions between the use of prosodies in the Firthian and stratificational approaches to phonology. These differences can be seen as having the overall effect of defining within stratificational phonology a considerably narrower range for prosodies than is found among the Firthians, while at the same time allowing a considerably broader range than that allowed for traditional suprasegmental phonology. By and large, we find that the phenomena treatable by stratificational prosodies correspond most closely to that found in Harris's LONG COMPONENTS,[11] whose partial similarity to Firthian prosodies has already been remarked upon by such observers as Robins (1957:273). Still in all, stratificational phonologists, and phonologists generally, can profit greatly from a study of the Firthian literature, which applied Firth's prosodic notions much more broadly than Harris's students ever applied his long components. In translating from one model to the other, however, it is clearly necessary to winnow the wheat from the chaff. This paper indirectly suggests how such a winnowing should proceed with respect to the stratificational model.

NOTES

1 The symbolization in the table is as follows: For prosodies, F = FRONT, R = ROUNDED, B = BACK, N = NONROUNDED; for tran-

scriptions within the stratificational column (suprascripts) MN = Morphonic (morphophonemic), P = Phonemic.

2 It is well known that Turkish rounding harmony applies after a root only to sequences of high vowels: the occurrence of any non-high vowels cuts it off. Because of this, vowel harmony does not apply to the entire phonological word in every instance.

3 It should be noted that Lyons (1962:278) mentions the possibility of making an analogous reduction in prosodic formulas. The quoted transcriptions, however, appear to represent the most usual prosodic practice.

4 Aoki cites examples, usually borrowings, to illustrate the need for a harmonic sequence boundary within some words: /lém-ha·y/ THE LEMHI RIVER, IDAHO, /cú·+im-'ayn/ FOR A STEER (1970:42). In such cases, there will be a distinction between the HARMONIC WORD and the PHONOLOGICAL WORD.

5 Phonons are symbolized as follows: Vo = Vocalic, Hi = High, Fr = Front, and Bk = Back. The latter is used in place of "Labial", the designation usually preferred by stratificationalists, because the vowel /u/ may be either unrounded or rounded. It should be emphasized that this is a mnemonic matter only: it should not be taken to imply that stratificational phonons must invariably occur in a one-to-one correspondence with phonetic properties. We can decide the ultimate justifiability of this label only in connection with a consideration of the overall system.

6 References are to pages in Aoki 1966 or 1970.

7 These transcriptions are based essentially on Aoki 1970. It should be noted, however, that they do not abstract as much as a stratificational analysis would be expected to: a reading of Aoki's morphological descriptions shows that he treats as allomorphic many alternations which could be handled morphophonemically.

8 Further details of phonotactics not considered here might, of course, make the ultimate account more complex than this.

9 This is taken to be a variety of the COORDINATION ELEMENT introduced by Lamb (1966:24-26). The concord element is presented as a separate, though related, node because its repeatability is based on the need for repeated conditioning signals below it, and is limited to the domain of the unordered AND node immediately above it.

10 Numbered references in parenthesis are to pages of Aoki 1970. Another type of prosody in Nez Percé is suggested by his discussion of 'Consonant and Vowel Symbolism' on pages 43-44, which describes certain alternations occurring mainly in connection with diminutive formations. More data than is given there would be needed for a definitive formulation.

11 As initially discussed in Harris 1944.

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INTONATION AND FOREIGNER TALK

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1. Introduction

A paper on foreigner talk (FT) which appeared in The Seventh LACUS Forum 1980 (McCormack 1981) showed that the main function of the FT register is clarification in adult communication. A sequel in The Ninth LACUS Forum 1982 (McCormack 1983) distinguished an informal from a formal variety of FT, and argued that in the informal variety the FT speaker so assumes the burden of clarificatory interaction across language boundaries that it becomes impossible to distinguish analytically between self-correction and other-correction.

The purpose of the present paper is to argue, by reference to informal-FT English and to non-FT borrowings from it, that intonation is semantically redundant.

The continuing subject of this longitudinal study of language in an informal-FT speaker is a North American native-English-speaking adult female passive bilingual in Lithuanian (hereinafter, "AMM"), and the communication of this person with Lithuanian-American consanguines and affines who speak or write to her mainly in English broken language (BL), with sporadic interpolations of their Lithuanian L_1.

2. Switching in Non-FT

We have seen previously (McCormack 1981: Appendices II.A and II.B) that AMM does not use the same broad intonation contours in informal-FT and non-FT English. Nevertheless, without insisting a priori that what she says in English to a non-BL-speaker must be something called "normal"or "standard" English, we can distinguish these two speech varieties of hers socially, by presence or absence of "native speaker" status on the part of her interlocutors, and note that her non-FT English does contain switching from her informal FT. Indeed, in layman's terms, she has "an accent" in her non-FT English, though no one has ever regarded her as anything but a highly literate native speaker of North American English.

For example, AMM frequently employs downglide for word accentuation in non-FT. The downglide is normal in Lithuanian (on phonetics and dialectology of Lithuanian pitch-accent, see Van Wijk 1958 [1923], also Robinson 1968), though not in North American English, and AMM's optional use of it in non-FT is probably prosodic transfer. AMM is unaware of using this downglide for accentuation, and is unaware also of using a Lithuanian upglide for some functions of an English downglide (particularly for continuation signaling--see Delattre, Poenack and Olsen 1965: 159). Yet she is not tone-deaf. She has had musical training, was a speaker of Mandarin Chinese during college years, and is an excellent nonparodistic mimic of local dialects in several languages.

Possibly the reason why native speakers of English too do not detect this switching is that AMM simultaneously uses customary rhythm and tempo in her non-FT English speech. Prosodists generally agree that intonation, as measured by fundamental frequency or pitch, is a less important variable predictive of cross-linguistic intelligibility than are the rhythm and tempo of speech. Thus Eva Gårding, a contrastive prosodist at the University of Lund, after testing Swedish and French native speakers on various computer-generated manipulations in the tempo, rhythm, and intonation of Swedish and French sentences, concluded that (1981: 163):

> ...manipulations in Swedish spoken with Greek prosodic transfer...indicate that tempo and rhythm are more important than intonation.

And (1981: 164):

> Once the accents are in the right place (as they were in our input) then tempo and rhythm...are fundamental for acceptability and, most probably, also for intelligibility.

At the same time, it seems also to be generally true that:

> It is not the direction of the [pitch] movement that counts in an accent language [like English] but rather the movement itself [Gårding 1981: 161, referring to Bolinger 1958].

For example, studies of dialectal variation in Swedish, Danish, and Scots have been consistent with this view:

> ...it is typical of dialects in accent languages that they use different directions for their accents [Gårding 1981: 160].

Another feature optionally employed by AMM in non-FT is a gradual rising-falling intonation contour for declarative sentences (e.g., "I love that card," on tape 9/4/83, at 076) and, broadening, for others. In North American English, such a contour would connote a proverb, a maxim, a gnomic expression ("what comes up, must come down"), or a flippant comment ("easy come, easy go"), but, as Bolinger has pointed out (1964:290), there is no such semantic restriction on rising-falling sentence intonation in continental European languages. The rising-falling contour represents the customary declarative intonation contour for Lithuanian (which uses it also for questions), Serbo-Croatian, Greek, French, Spanish, German, Swedish, and others (Vaitkevičiutė 1967; Bolinger 1964: 290; Gårding 1981: 156), and can be perceptually salient when phrase-internal accentuation is ignored or neutralized (Gårding 1981: 161). Being so widespread, it is possible the contour serves as a prosodic functional equivalent of all-purpose grammatical FT forms on the continent, of which the use of infinitive for finite verb forms is the paradigm case (cf. Ferguson and DeBose 1977: 104; McCormack 1981: 511). Certainly AMM's FT does not place the North American semantic restriction on rising-falling sentence intonation, either. Far from restriction, her FT derives from interaction with a BL-speaking mother who broadens the continental usage along Lithuanian lines beyond declaration to questioning (e.g., in, "Who's this card from?" [tape 9/4/83, at 078], although the pitch-contour is much flattened, and there is possible pitch-accent on the final <u>from</u>; on the occurrence of such sentence-terminal contour in English prosody, see Vanderslice 1972 and Hadding-Koch and Studdert-Kennedy 1964). If that prosodic functional equivalence does exist on the continent, incidentally, an interesting side-question for sociolinguists would be what interactional imperative obtained historically to give rise to it.

AMM's mother sometimes approximates English sentence intonation quite well--perhaps more than we know, given that our tapes reflect subnormal performance due to AMM's usual effect of deteriorating the performance of the BL speaker (McCormack 1983: 490). Such approximate command of English sentence intonation contrasts with her less competent performance of English rhythm and tempo, which is adversely affected by her problems with English grammar and lexis (McCor-

mack 1981: Appendix III). Nevertheless, AMM observes optional switching, as above, and in so doing conforms to the above-mentioned consensus of prosodists that rhythm and tempo are more salient predictors of intelligibility than is intonation.

Two final examples of prosodic switching illustrate the application of an FT strategy to non-FT English. One strategy is the avoidance of nominal compounds. Bolinger has contended that propagandists are fond of nominal compounds because the compounds are intrinsically ambiguous or devious. As he puts it (1973: 545), "the predication is not only buried out of reach but out of sight." AMM--as befits a clarification-minded speaker of FT--bypasses the intricacies of nominal compounding, such as have misled even Bloch and Trager (1942: 66; cf. Marchand 1955: 221), and typically opts to use syntactic groupings rather than nominal compounds (cf. also Goldsmith 1981 or Vanderslice and Ladefoged 1972).

Another strategy is the total avoidance of English nonlexical cries which depend on intonation for their meaning, e.g., oops, oh oh, or uh huh (Luthy 1983; Goffman 1978). Avoiding these means that AMM's interlocutor need not be in full command of English intonation.

Since AMM uses features of Lithuanian or FT prosody in non-FT English, without native-English-speaking hearers recognizing the fact, it follows that intonation can be semantically redundant. However AMM conveys her meanings (and nonverbal devices are obviously involved; see Giles 1973), it is not by the regular use of any language-specific system of intonation.

3. The Coda in FT

From a technical prosodist's point of view, the outstanding feature of AMM's FT prosody would be slow metronomic rhythm interspersed with rushed codas. The impression conveyed to native speakers of English would be one of choppy rhythm, with minimal approximation of accent conventions, and emphatic drawl on semantically important word-units (Vanderslice and Pierson 1972 [1967]: 441-42).

Given that the FT speaker deteriorates the formal language performance of her BL interlocutors, FT/BL dialogue tends to be topically diffuse. But in a previous paper, we described how AMM produced for this writer a kind of discourse equivalent of focused conversation in the form of an 80-word summary of her preceding diffuse telephone exchange with a BL speaker (McCormack 1983: 488). That skill at succinctly sum-

marizing qua focusing diffuse discourse is habitually employed by her during FT to produce "codas," and the easy competence with which she produces those is matched by her recently defining the act as one of processing for the interlocutor the information available in the speech act.

In this usage of a term borrowed from musical argot, the "coda" is a post-terminal, rushed, topically summarizing qua focusing discourse-unit, which is characterized, not by its syntactic form, which varies, but by its function of topically summarizing qua focusing. In the following example of AMM's reading aloud to her mother a family letter (tape 9/4/83, at 048), the fast-tempo (F, versus S = slow) passages are codas:

> (S) "We have delayed a trip, because our car is so old." (F) See they also, they couldn't afford to buy a new car. (S) And she says--"before we can travel any distance we must make some repairs and replacements--like brakes and tires. Or, we must simply face the fact and expense of a new car. So we are looking for a second-hand car but they are hard to find these days. We do miss you and want to come, and bring our family to see you. But we must be sure that our car is sturdy and safe. We all wish you both a bright and happy Easter. Much love, Suzy, Arthur, Robin, and Polly. I hope to have some new pictures soon." (F) Well this was to thank you for your gift and and to explain that they were really very happy to get it just at that time. (BL) Yeah.

That AMM's codas stand in apposition to something that has come before suggests borrowing from the model of the Lithuanian appositional noun. Such nouns are very commonly used in the Lithuanian language. Senn saw them as specifying their referents (1966: 489), and Von Pritzwald observed that they were marked by accelerating tempo (1934: 29). In light of Senn, the following recent statement on the semantic functionality of final position is of special interest (Van Dijk and Kintsch 1983: 202):

> The initial or final position of topical expressions follows from their semantic functions ... in the final position, topical expressions serve to check, remind, or correct the already established macropropositions of the hearer, as well as to repeat

> what was already known, so that the hearer has not only hierarchically dominant information but also recent information to search for when the topic is needed in subsequent tasks.

In my view, it is not necessary to allege systematic analogies between first- and second-language acquisition to reason that the coda constructs the topic of preceding diffuse discourse in much the same way as a mother's discourse constructs things already known to her child--in both cases, by transactions necessarily embedded in intimate or familiar social settings, which Jerome Bruner calls "formats" (1983: 39-40):

> Continuities between prelinguistic communication and later speech...may...need an "arranged" input of adult speech if the child is to use his growing grasp of conceptual distinctions and communicative functions as guides to language use. I propose that this "arranging" of early speech interaction requires routinized and familiar settings, formats, for the child to comprehend what is going on, given his limited capacity for processing information.... Because there is such concentration on familiar and routine transactional formats, it becomes feasible for the adult partner to highlight those features of the world that are already salient to the child and that have a basic or simple grammatical form.

As for why such construction is functional in FT, that may be understood by reference to Erickson's concept of conversational "floors" as related to topical cohesion (1981: 47):

> Conversational floors are...a local production resource for the construction of topical cohesion. The 'floor' is a sustained focus of cognitive, verbal, and nonverbal attention and response between speaker and audience.
>
> In maintaining a floor, audience and speaker interact socially in...reciprocal and complementary ways.... Without the ratification of audience response, a speaker has nowhere to go with a topic once it has been introduced....
>
> Since the topic occurs in a floor, and floors are jointly maintained by speaker and

> audience participation, a topic must be intelligible to the audience if the audience is to be able to do its part in collaboration with the speaker.

Since Erickson's "floor" is my "expressive culture" (see McCormack 1983), the discourse between our FT speaker and our BL speaker is certainly embedded in a floor. However, the English-language competences of the actors are too different for the floor to be maintained interactionally in "reciprocal and complementary ways." Nonetheless, says Erickson, a topic must be intelligible to the BL speaker if a floor--in other words, if the shared ethnic culture--is to be maintained at all.

This, then, is very probably why AMM so insistently produces codas that ultimately "rush" diffuse discourse through to some clear and definite conclusion. The coda represents an urgent attempt to impose topic-intelligibility in the interests of perpetuating shared expressive culture. Because of the importance of definiteness in AMM's FT, the coda is not her only means of constructing topicality. But we single it out for attention here because its rushed tempo makes it most pertinent to the present discussion of prosodic features of FT.

4. Intonation for Affect

If our FT speaker employs verbal devices like the coda for semantic functionality, she resembles people everywhere in using specific intonation contours for signaling affect. To laymen, such attitude-signaling aspects of prosody are salient, and according to Reinecke and Tokimasa (1934: 129):

> ...the outsider is more impressed by these features of the Islanders' [Hawaiian Creole] speech than by peculiarities of their vocabulary and syntax.

Vanderslice and Pierson have also said that the wide range of pitch fluctuation in Hawaiian Creole appears to others to be "an affective index," such that to the outsiders its speakers sound "markedly enthusiastic or excited" (1972 [1967]: 441).

One attitudinal contour much used by AMM has been attested for the dialect of Buividze, a village in the vicinity of AMM's mother's (north-) East High Lithuanian birthplace (Gauthiot 1903: 11-12):

> C'est celle des déplacements d'accent qui sont dus a l'insistance emphatique. Ceux-là, en effet, ne concernent pas une seule classe déterminée de mots; ils sont, a priori, possibles partout. Ils obéissent d'ailleurs à une loi qui peut être formulée de la façon suivante: tout échange d'accent se fait entre syllabes égales par leur importance, c'est-à-dire entre syllabes, sinon intenses, du moins capables de l'être, et maintenues en une espèce de catégorie spéciale pour cette seule raison.

However, AMM's usage of this "super-emphatic" contour seems due, less to prosodic transfer, than to the nature of the contour as an iconic universal in speech behavior (Bolinger 1978; for its use in Huasteco, see Larsen and Pike 1949: 273). Bolinger analyzed this super-emphatic as achieving "downright positiveness" (Bolinger 1978: 492) by repeating an Accent A (downglide/downskip). It is interesting in light of AMM's definiteness in FT discourse, then, that Bolinger's Accent C (fall-rise), which "is a kind of inversion of A" and signifies indecision and/or dependency (see also Nagara 1972: 97), is never used by AMM.

Attitude-signaling features are understandably prominent in informal FT. Wide tessitura and emphatic drawl particularly signal empathy of the FT speaker with the speaker of BL, but, as a class, such features are consonant with the intimate kind of expressive culture which permeates informal FT.

In sum, speaking informal FT signifies speaking for communicative clarity, but doing so with empathetic expressions of high involvement with, and excessive sociability toward, the BL speaker. Such expressions reflect ethnic cultural attitudes which are different from the cultural attitudes accompanying non-FT speech. According to Erickson's analysis of Italian-American conversation (1981), such switched-on expressions of ethnic-community norms can actually substitute for topical cohesion in the rhythmically integrated, intimate, verbal and nonverbal dinner-table communication of the Italian-American family. In traditional Lithuania and until today, song too has substituted for topically managed conversatuon in intimate settings. It is the same with informal-FT/BL "duets."

5. Conclusion

We have seen that an FT speaker can use Lithuanian intonation features in non-FT English discourse with-

out native-English-speaking hearers recognizing the fact. We have also seen that the FT speaker can dispense with much intonational functionality in FT, as when AMM uses the coda to establish topicality.

Given these facts, we infer that intonation is semantically redundant. This inference is consistent with Kenneth Pike's position that some speech communities (e.g., the Oto Indians) use intonation only in accompaniment to one or two types of exclamation (personal communication, and Pike 1945: 21). It is consistent too with Dwight Bolinger's position (1972, 1982) that no "normal" intonation pattern exists in American English, and furthermore supports Schmerling's thesis (1974), for stress, that there is no point in defining one.

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WHY IS VOICE REGISTER THEORY HARD TO PLUG IN TO PHONOLOGY?

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The prosodies of Chinese, Proto-Tai, Proto-Miao-Yao, and Vietnamese, as Chang Kun (1953), Li Fang-Kuei (1954) and Paul Denlinger (1974-75) have shown, fit astonishingly well into an eight-box chart published in 1955 by the Chinese Academy of Sciences. That chart is based on distinctions between two voice registers recognized in Chinese since at least the 14th century and utilized by the well-known phonologist Chiang Yung in the 19th century as a basis for identifying eight tones of Chinese, four of which he assigned to a ch'ing 'clear', and four to a cho 'muddy' register.[1]

This does not mean that most of the languages referred to have eight tones. Most, in fact, have six or fewer. But it does mean that an eight-box matrix provides an ideal display arrangement on which to plot the relationships of the tones and registers to one another.

First Register (ch'ing)	Second Register (cho)
CAS 1 Li A1	CAS 2 Li A2
CAS 3 Li C1	CAS 4 Li C2
CAS 5 Li B1	CAS 6 Li B2
CAS 7 Li D1	CAS 8 Li D2

Table 1: Eight-box display of the prosodies of Chinese and Proto-Tai (after the Chinese Academy of Sciences, Li Fang-Kuei and Paul Denlinger).

At this point a brief review of voice register theory (VRT) is in order. It is especially important to recognize voice register in phonology as a phenomenon which is quite different from, and other than, phonetics, phonemics, distinctive feature analysis, and intonation, as these are generally understood and applied.

Reduced to its simplest terms, voice register, in languages

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[1]Li Fang-Kuei, personal communication.

which exploit it for lexical and grammatical contrast, is an alternation between enlarged pharyngeal space accompanied by reduced oral space, in contrast with reduced pharyngeal space accompanied by enlarged oral space. The primary articulator accomplishing this gesture is the tongue. Backed into the pharynx, it leaves more room in the mouth; fronted in order to enlarge the pharyngeal cavity, it reduces air space in the mouth.

Though this over-simplified explanation would seem to be no different in principle from those governing ordinary phonemics and distinctive feature analysis, it so happens, as Perkell pointed out in 1969, that the root of the tongue does not ordinarily articulate so rapidly as the tip and blade do, and that the oral/pharyngeal space alternation generates an incredible variety of consonantal, vocalic, pitch, voice quality, syllabic, and word length effects which must be analyzed and described on a level different from that of the other, better-known areas of phonology.

No less rich than the variety of articulatory and acoustic effects resulting from this alternation is the variety of labels which have been given to the two principal registers. The reduced pharyngeal, enlarged mouth space register has been called bright, creaky, high, clear, first, tight, head, light, emphatic, while the enlarged pharynx, reduced mouth space register has been called dark, breathy, low, muddy, second, lax, chest, heavy, non-emphatic. Because many of these labels have been used in other contexts with other meanings, we have elected, in this paper, to use the term 'bright' and the initials BR for the constricted pharynx articulation and the term 'dark' (initials DR) for the enlarged pharyngeal configuration. At the same time it must be emphasized that these are emic, not etic, designations. H (high) will be used as a synonym for bright and L (low) as a synonym for dark.

Some of the most familiar exponents of the contrast between the two are, in Indic languages, a sound like the first vowel in English <u>father</u> for the BR and one like the schwa of Semitic languages for the DR. The 'emphatic' consonants of Semitic languages are BR, the non-emphatics DR. The voiced aspirates of Indic languages are DR, the 'creaky' syllables are BR. The high tone syllables of Athabascan languages are BR, the low tones DR. The bright vowels of Kru are BR, the muffled ones are DR. The close harmony set of vowels in Twi is DR, the open harmony set is BR.

In order to understand what has gone on in the register languages of East and Southeast Asia, it is necessary to assume word-initial (as in Kalmyk) or word-final (as in Mon-Khmer) stress placement in most of them, accompanied by contraction and/or loss of unstressed syllables. As this process of reduction or loss of unstressed syllables takes place, certain of their contrastive features are transferred to stressed (tonic) syllables, with a

consequently much enlarged inventory of consonants, vowels, and/or prosodies (tones, etc.) on the tonic syllables. Though this may seem to provide (or burden) the language with a greater range of contrastive apparatus than before, it is simply a trade-off -- longer lists of segmental and suprasegmental devices being elected in place of longer strings or sequences with fewer choices at each point in the string.

With this groundwork laid, we are now in position to show how the process of contracting three-syllable, two-register sequences into monosyllables without loss of contrast gives rise to an eight-prosody system.

To illustrate the conversion, let us assume a two-register language in which every syllable may be either 'bright' or 'dark'. Let us assume also that most word-bases of this hypothetical language are disyllabic and that most of them have at least one clitic or affix, making a trisyllabic unit the commonest sort of phonological word. Using B for 'bright' and D for 'dark', the total range of combinatorial possibilities may then be mapped as follows:

B-B-B
D-D-D

Table 2: The eight combinatorial possibilities of two registers on sequences of three syllables.

Though the eight different possible combinations of bright and dark registers (BBB, DDD, BDB, BDD, DBB, DBD, DDB, BBD) in tri-syllabic words or triconsonantal roots may give a clue to the eight-box charts we are pondering, they do not immediately explain why so many of the languages involved are six-tone languages. But the addition of two charts from harmonic theory does.

Arthur H. Benade (1960:48), quoting a 1755 work by Daniel Bernoulli, explained why only six patterns emerge in harmonic theory rather than eight: When three beads on a string are set to vibrating in such ways as to give the harmonic wave motions so familiar to students of music theory, four of the resultant patterns are just what would be expected in voice register theory: HHH, LLL, HLH, and LHL. Beyond this there are only two more in fact, as opposed to the theorectically possible four more. HHL and HLL fall together into HML (high mid low), while LLH and LHH fall together into LMH (low mid high). Translated into voice register theory, this means that it is rare to find a tone language which has more than six tones: high, low, rising, falling, rise-fall, and fall-rise, or etic variants of these.

HHH HLH
LHL LLL

Table 3: The four stable configurations of three-syllable sequences of two registers. H=high, L=low.

HHL)
become HML
HLL)

LHH)
become LMH
LLH)

Table 4: The four unstable configurations of three-syllable sequences of two registers. M = mid.

HHH, LLL, HLH, LHL, HML, LMH

Table 5: The six emic possibilities of three-syllable, two register sequences.

In Pittman 1970 I showed how the two-prosody system of Tibeto-Burman Chepang, and the four-prosody systems of Tamang, Gurung, Thakali and Sherpa fit neatly into a general two-register framework. In Pittman 1978 I showed how this accounted also for the eight-prosody systems of Thai and Chinese. But though I gave the harmonic theory explanation for the many six-prosody systems of Southeast Asia, I did not diagram it. Now, with the excellent material by Hope and Wyss on the Lisu and Akha languages of the Lolo group of Tibeto-Burman (Smalley 1976), two six-prosody systems can be charted.

Table 6: The six tone-register prosodies of Lisu (adapted from Hope).

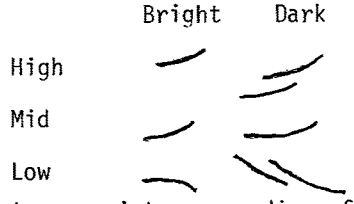

Table 7: The six tone-register prosodies of Akha (adapted from Wyss). Two contours in a single box represent two etic variants of a single emic prosody.

Assuming the two register, tonic vs. atonic stress placement patterns, and contraction-without-loss-of-contrast developments as a possible explanation for the remarkably useful six- and eight-box matrix display for so many East and Southeast Asian language prosodies, we are now prepared to address the question of why it is so difficult to plug voice register theory in to

standard phonology theory.

1. In the first place, conventional phonemics proceeds on an assumption of stable distinctions between consonants, vowels and suprasegmental features. But voice register theory focuses on syllable and/or word length constituents which may be realized as features of consonants and/or vowels and/or suprasegmental compoents of segments, syllables or words, with high variability between speakers of the same language, dialects of the same language, and diachronic stages of one language at various points in its history.

Lehn (1963), for example, describes the bright register of Cairo Arabic as "defined by the co-occurrence of the first and one or more of the following articulatory features: (1) slight retraction, lateral spreading, and concavity of the tongue and raising of its back (more or less similar to what has been called velarization), (2) faucal and pharyngeal constriction (pharyngealization), (3) slight lip protrusion or rounding (labialization), and (4) increased tension of the entire oral and pharyngeal musculature resulting in the emphatics being noticeably more fortis than the plain segments"; any or all of either may be realized over a sequence of several syllables.

2. A corollary of point one is the fact that the boundaries (linear extension limits) of each register articulation in the stream of speech of a given utterance must be independently identified in a register language. The ordinary notational devices used to distinguish consonants, vowels, syllables and words are not sufficient. Ordinary descriptions of Semitic phonologies, for example, including even Lehn's excellent article, fail to specify one or both boundaries of the emphatic (bright) register prosodies.

3. A third problem is that a given register in a given language may have no one constant diagnostic feature identifying it. This makes it difficult to apply standard 'markedness' procedures to its identification. In the closely related Tamang, Gurung, Thakali languages, for example, and the more distantly related Chepang and Sherpa, the bright/dark opposition may be realized by voicelessness vs. voicing of plosives, high vs. low pitch, tense vs. lax articulation, fortis vs. lenis syllable onset, shortness vs. length, clear vs. breathy voice quality, laryngealized vs. clear voice quality, constrastive vowel glides, or contrastive vowel openness, depending on the underlying segments and the adjacent ones. (Pittman 1970:4-5).

4. Similarly there are 'dominance' vs. 'recessiveness' problems in relations between registers, as a result of which one may be replaced by another in certain environments. Final *p and final *h in Proto-Jeh-Halang, for example, are dominant over dark register long vowels of Proto-North-Bahnaric, changing them to

bright register in Proto-Jeh-Halang (Smith 1972:15). See also Gregerson 1976:363.

Not only may one register replace another but also one feature of a register may replace another in certain environments. The conditions under which one feature or one register replaces another must be determined and described. Sherpa "saq 'tooth' is distinguished from 'saq 'ground' by fortis vs. lenis articulations, but "tsah 'hen' vs. 'dzah 'rainbow' are distinguished by clear vs. breathy articulations.

6. There are profound effects of stress (accent) and contraction on register. These must be recognized and attended to. There is extraordinary neutralization, for example, of nearly all contrasts in the pretonic syllables of Mon-Khmer languages.

7. Though there are generally only two, there may occasionally be three or more registers. If one is intermediate between the other two, this needs to be specified. Some consonants, vowels and/or syllables may be neutral (non-contrastive) with regard to register.

8. Details of how each register is realized and recognized, the linear boundaries of each, the effects of stress and contraction, and the manner in which one 'dominates' or assimilates another must all be incorporated into 'register harmony rules' which spell out the restrictions on freedom of occurrence to which registers are subject. The vowel harmony rules of Turkish, for example, are essentially register harmony rules. They have been both well and poorly stated by various linguists.

9. Still another surprising aspect of the VRT/PHM problem is the fact that bright register vowels are likely to be more open and dark register ones more close. (Stewart 1967; Gregerson 1976:330).

10. Though the 'creaky' vs. 'breathy' difference in the vowels of the two registers is quite familiar, the fact that the two registers are often contrasted by various sorts of vowel glides is much less familiar. Miller (1967) demonstrated this for Brou, and Smith (1968) for Sedang.

11. The tendency of DR consonants to be voiced and BR ones to be voiceless is likewise well-known, but it is less known and understood that DR consonants may be prenasalized (mb, nd, etc. as in Sedang (Smith 1972:22) while BR consonants may be glottalized, pre-glottalized, or imploded (Gregerson 1976:350).

12. Even less understood is the fact that labialization of consonants may be a reflex of BR (Lehn 1963) and palatalization of DR.

Given these many discontinuities between standard phonology and voice register phonology, what recommendations can be made of ways to reconcile them?

1. Recognize and accept the different lengths of VR segments and not try to confine them to the same lengths as ordinary vowels and consonants.

2. Where possible, for technical purposes, at least, write consonants and vowels of both registers the same, distinguishing them by symbols such as /q/ for bright and /h/ for dark.

3. Where it is not possible to write consonants and/or vowels the same for both registers, make sure that the descriptive rules equating sounds and symbols include all of the register contrasts symbolized by the notational devices.

4. Make sure that adequate register-harmony rules are included in the descriptive phonologies of all register languages, making sure that these include all aspects of consonant, vowel and prosody realizations of the registers.

5. Structure phonology statements in such a way that full recognition is given to the effects of register on consonants, vowels and prosodies. Refrain, if possible, from assuming that register is related exclusively or even primarily to any one of these three.

6. To facilitate comparative work, seek to distinguish between 'basic' and 'derived' or 'induced' register, the basic being more reliable for reconstructions.

7. In identifying and 'counting' the phonemes of register languages linguists may, for a variety of reasons, prefer either a large total which ignores register or a smaller total multiplied by register (e.g. 10 vowels in Jingpo or 5 vowels multiplied by 2 registers) but each should always acknowledge the option of the other point of view.

8. It is important not to confuse phonemic and graphemic analyses in VRT. Instead of electing one exponent of a register as diagnostic and eliminating all others as predictable, it is wise to accept all distinguishing features of each register as diagnostic while choosing one symbol (in theory, at least) or its absence, as the mark for each register.

Summary. Voice register theory, while inseparably intertwined with phonetics, phonemics, distinctive feature analysis, and intonation, must be kept carefully distinct from them. It is closely related to Zellig Harris's 'long component' analysis and J.R. Firth's 'prosodies' or 'phonematic units' theories, but (in our view) more comprehensive because based on more recent and more

adequate data. It is especially successful in accounting for an amazing variety of phonological phenomena in many languages of Asia and Africa.

Finally, a word of caution. Though this explanation shows how tone and register languages can be fitted together into a single genetic framework, it does not by itself, constitute proof of relationship. Much more elaborate detail and evidence is required for that.

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CONFUSION THROUGH DIFFUSION

Joan Gleason Fickett

The invention of the alphabet and its subsequent diffusion is generally considered a noble advance in human development. However, the use of the conventions of English spelling to write Tuscarora may rank with the measles among Old World cultural traits transmitted to the New World.

From another viewpoint, the orthographic adventures of the Tuscarora give us a living and documented example of some funny things that may have happened as the alphabet, like tobacco, made its way around the globe.

Written English seems to have surmounted the particular alpha-beta-gamma wave that gave us such monstrosities as quick instead of cwic and what instead of hwat, but written Tuscarora, like writings in the Futhark, isn't going to make it.

Tuscarora was a viable community language as late as 1930. The desire to preserve the language through writing was frequently expressed in the 19th century and is still frequently expressed. There should be a considerable body of writings in Tuscarora, but all we have are J.N.B. Hewitt's material, consulted only by linguists. One Tuscarora woman, encouraged by a linguist, has recently learned to read Hewitt's texts which are only now being translated. Remaining speakers of Tuscarora reject Hewitt's notation system as too complex and very funny-looking indeed. I am inclined to agree with them.

There are perhaps twenty fluent speakers of Tuscarora left. Although there is some variation in their spoken language, there is much disagreement as to what should be correct spelling, even when an item is phonetically identical for all speakers. In a letter to Schoolcraft (Schoolcraft, 1846 p.259) Rev. Rockwood says

> ...each individual undertaking to reduce any portion of the language to writing will have a system, in part at least, of his own.

Rockwood admits to having tried three different systems himself. The situation remains unchanged. At a small workshop held in 1981, one item, presented by a native speaker yielded six spellings from six spellers. The Tuscara for tree, [u:rĩpæ], was spelled oo ra yeh, u ra heh, oo ra-ah, oo reh eh, oo-re-eah and u reh eh. Adding more spellers would have added to the variants, for my informant in 1964 spelled it o-rá-áh and Elton Green in his little book of 1969 spelled it oo-ĕh-eh.

Can the differences between English phonology and Tuscarora phonology account for any of this confusion? English and Tuscarora certainly do not have the same rumble.

English makes contrasts between voiced and voiceless consonants (or fortis/lenis, if you will). English observes contrasts in point and manner. It also has a very complex vowel system which will not be described here in order to avoid arguments over detail. I would like to note, however, that the folk analysis of the English vowel system may be relevant. This analysis holds that English has five vowels long and short-a, e, i, o, u, and sometimes y. Although slightly erroneous, the folk analysis is still widely used in our schools albeit variously disguised in modern teaching guides.

Tuscarora phonology does not compute like English. It depends on contrasts of point and manner, but voicing and fortisness are distributed. Spirants have no voiced allophones, glottal stop is a phoneme, and aspiration after stops and spirants is a separate phoneme. There are five vowels: high-front, low-front, high-back, low-back, and a nasal vowel. The nasal vowel has allophones all over the place. And, as everyone knows, Tuscarora, like all good Iroquoian, has no bilabials.

Let us imagine what the English-speaking Cyril or Methodius might have heard on first encountering Tuscarora. He would hear phones unheard in English. He would discount the "aspiration" after the stops, the nasalization of the vowels, and wonder about the glottal stops. He might hear the difference between Tuscarora /s/ and /θ/ if he had a very groovy English /s/ or run into trouble if he used a rather ungroovy blade spirant which passes for English /s/, albeit rather feminine. Such would be the rough outlines of the gulf existing between the two phonologies.

Nevertheless, we know from history that phonological differences between languages need not necessarily prevent the development of a writing system. The Greeks made it over the hump from a Semitic system, and even Linear B seems to have been useable albeit clumsy.

The confusion over Tuscarora spelling evident in 1981 came as no surprise to me. As I worked with my informant in the late sixties, odd scraps of paper kept showing up from here and there. They were word lists, lists with English words on the left and Tuscarora glosses on the right. I never saw any lists without the English words. The Tuscarora was read by my informant with a great deal of difficulty. I couldn't read the Tuscarora at all. I discouraged the flow of memos when I realized my informant was consulting others for items she could not recall. I also found it disconcerting to be given an item that was recognizably Seneca. I regret now that I do not have a more extensive collection of those scraps for I feel that they would give support to my hypothesis of a nascent folk orthography which died a-borning.

Certainly conditions in the 19th century were such as to

encourage the development of an orthography. There were for one thing more than a few bilinguals living on the reservation. As early as 1827 we have David Cusick writing in English. His brother James was the Baptist minister. It is known that James Cusick sat for his portrait by Catlin, and it is reported by a descendant that he "assisted Catlin in some of his writings." If such be true, it may account for Catlin's rather accurate Tuscarora word list - phonologically accurate, that is. William Chew, who helped the Presbyterian minister complete Schoolcraft's fill-in-the-blanks questionnaire for Tuscarora, was an accomplished bilingual. Unfortunately, Rev. Rockwood does not seem to have asked William Chew for advice, but relied instead on the Quaker missionary to the Seneca, a Rev. Wright who translated parts of the Bible into Seneca. These days there are two kinds of Seneca - Church Seneca and Regular Seneca; it is only speculation to give Rev. Wright credit. No translation of the Bible exists in Tuscarora, but some of Rockwood's spelling practices linger on.

It is my contention that the presence of a genuine "little red school house" on the reservation early in the 19th century had a greater impact on the orthography than the efforts of the missionaries. We cannot ignore the influence of teaching traditions and theories that go with an alphabet. One of the earliest, if not the earliest, schoolmarm to the Tuscaroras was a Miss Abigail Peck. She was appointed by the Presbyterian mission, which dated from before 1800. The Tuscaroras built their own school, attended by children of various religious persuasions. Miss Peck was around for a long time. She went west to Indian territory with the Tuscaroras and returned with those who survived, as did the aforementioned James Cusick. In 1846, after the return, there were 50 children attending Miss Peck's school. Miss Peck lies in her grave in the Mt. Hope cemetery. She has not been forgotten. Did Miss Peck, like almost all schoolmarms subscribe to the highly respected folk theory that language is letters which are pronounced, or to a belief that there are things like pure language and correct spelling? Assuming that she did, one can also assume that her charges learned these myths along with the sacredness of the alphabet. They were taught to use the alphabet with "the common English powers" as Schoolcraft advised Rockwood to do. Rockwood assures Schoolcraft, "I have used the English alphabet with natural powers so far as Tuscarora sounds could be indicated by them." I believe Rockwood's remark spells t-r-o-u-b-l-e.

The basic idea of the alphabet is the use of contrastive symbols to represent contrastive sounds. The ideal alphabet, as linguists might see it, is one phoneme/one letter. However a number of problems seem to develop as an alphabet goes from hand to hand in representing various languages. If the phonemic inventories are different numerically, there may be too few letters, or too many. If too many, clever use may be made of the leftovers. The Greeks were clever. If the symbols are too few various devices may develop for making up the shortage - new

symbols, diacritics, digraphs, trigraphs. English abounds in these, no thanks to the French.

Although linguists may talk about phonemes and letters, such is not the way of the folk, nor is such the way of talking when the folk learn to read English. If we run across letters we cannot pronounce we go to our pronouncing dictionaries which give us keys, or key words. Thus:

e	is	pronounced	as	in	he
e	is	pronounced	as	in	get
ee	is	pronounced	as	in	feet
oo	is	pronounced	as	in	food
o	is	pronounced	as	in	do
a	is	pronounced	as	in	hat
a	is	pronounced	as	in	swan

First the learner learns the alphabet. Then he learns that a is the first sound in apple. Sometimes letters say their names, witness "fairy e at the end of a word makes the letter in the middle of the word say its name", or "when two vowels go a-walking the first one does the talking." Except in Hewitt's work, there are no keys to the pronunciation of letters in Tuscarora. Each individual presumably has his own key. Well might Miss Peck teach them correct English pronunciation and spelling, but when it came to Tuscarora, they were on their own. The Tuscarora appear to have used the English alphabet with some uncommon English powers.

Close scrutiny of their attempts allows us to reconstruct keys and a pattern emerges. The most striking feature is patterned inconsistency, but an inconsistency limited to the alternatives that English offers.

We need take only six Tuscarora items to get a fair idea of what has happened with the writing of Tuscarora vowels. The items are represented in broad phonetics together with variant spellings for each item.

[ukθæʔ] 'dish'
ooke tha
oog theh
ook tha
oo-k' theh

[ɔhhɔ:θ] 'horse'
ah hath
ah hawth
au hawth
au hath
ah-hauth

[učĩ:hæ] 'fire'
oo ja hea
oo genh heh
oo jhe heh
oo cheh heh

[ʌyiʔnĩ] 'bird'
gee-na
ge-nah
geh nih
gie neh
chee nuh

[unɛ̃hsæh] 'house'	[u:rɪʔæ] 'tree'
oo neh sha	oo ra yeh
oo nes seh	u ra heh
oo-nuh-seh	oo ra ah
	oo-reh eh
	oo-re-eah
	u-reh eh

This small sample reveals oo as the favored spelling for the high back vowel. Occasionally o as in do appears as does u where the vowel is preceded by y. Once in a while we find you.

Although our sample seems to favor e over ee for the high front vowel, a wider sampling shows ee as most frequent. Occasionally i, ie, and ei and y as in city appear. The i spelling, as in Italian is puzzling and yet to be explained.

In this native orthography you can depend on ee for HF and oo for HB. There is consistency, there is continuity. Even our missionary, Rev. Rockwood can be depended on. Catlin (1844) records 'lightning' as yoohooks. Elton Green writes 'lightning' as you-hooks.

The low back vowel is almost always represented by a as in water, what all and swan, thus corresponding with the three allophones. Occasionally au and aw are used.

From here on, confusion will reign. There is no consistency in writing the LF vowel which has two allophones, E and . If e is used, it overlaps with the spelling for the HF. If a is used, it overlaps with the spelling for the LB. The problem is not solved by the use of h after e or a because Tuscarora has lots of unquestionable postvocalic h's. The problem with the low front vowel reminds us of a similar situation in English history but as the alphabet came to the Tuscarora, they found no diagraph. The use of a for both LB and LF Tuscarora vowels is a direct inheritance from the English alphabet. Hence confusion through diffusion.

We have not yet reached the limits of the confusion. Their nasal vowel is spelled a e i o u but never y. Knowing that there is no n, our scribes resist postscript or superscript n's, and represent the nasal vowel by approximate position. The situation is analogous to our writing of the weak stress vowel in English which accounts for a high proportion of our spelling errors, as we are all aware. Things are even worse for the Tuscarora nasal vowel, for we find for twelve representations, eight variant spellings. Postscript h is a favorite device to indicate something is going on that you are having trouble representing. This would be fine if Tuscarora did not have a high frequency phonemic h. Therefore, eh for the nasal vowel overlaps the spelling for LF+ h, and ah for the nasal vowel overlaps with the spelling for LF, LF+ h, LB, and LB+ h. The letter h is also used to indicate a glottal stop, but the more usual spelling for glottal stop is nothing.

Problems do not end with the spelling of vowels. Tuscarora

has hy, hw and hr clusters. Historically English had hw, hr, hy, and hl. Of these, an occasional hw, spelled wh, and the hy, spelled hu remain, and we have the relic spelling wr kicking around. One way of dealing with the Tuscarora clusters is to write the h as though it went with the preceding syllable and hyphenate, thus compounding the problem for the vowels.

One begins to wish at this point that the Tuscaroras had started with Old Canaanite. This might have spared them some rather clumsy rebus writing. When I see their rebus writing I am reminded not of the Egyptians, but of my own school days when we learned to sight read those little words like I, he, she, we, to, not, come, a etc.. These so called sight words, you may recall, often violate the rules for pronouncing your English letters.

The halting advance of the alphabet on the frontier after the revolution is well demonstrated by the Tuscarora numbers from one to five as written by David Cusick about 1825 and by Elton Green in 1969

1	VNTCHEE	Eh-Geeh
2	NAKE-TEE	Nehk-dee
3	AV-SH	Ah-Seh
4	HUN-TOCK	Heh-dauk
5	WHISK	Wee sk

When confusion itself becomes a tradition carried forward for more than a century the only result can be a long-running spelling bee with no winners.

Gelb says (Gelb, 1963 p.199)

> ...we must always reckon in the case of all great cultural achievements with the decisive intervention of men of genius who were able either to break away from sacred tradition or to transfer into practical form something on which others could only speculate.

No such man of genius appeared among the Tuscarora in the 19th century. Hewitt, besides coming too late, does not meet the criterion of transferring into practical form. Furthermore, his texts are concerned with a pagan cosmology of little concern to good Baptists and Presbyterians. The Tuscarora had no Sequoyah, although they all know about Sequoyah and seek to emulate him. Sequoyah had the advantage of never having gone to school. No Tuscarora scribe has had that advantage. No Tuscarora has been able to break away from the sacred tradition of the English alphabet and all its "natural powers".

We learn from the example of Sequoyah that the idea of the alphabet, or stimulus diffusion, can triumph over the given letters. Because the relation between sound and symbol is arbitrary, it takes a genius to devise an alphabet. No wonder then that the ordinary diffusion of the alphabet leads to confusion. "Culture", said Sapir, "is the hand of dead men."

The hand, writing on the wall, writes on.

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WRITTEN ENGLISH: DINOSAUR OR NEW SPECIES?

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Since Saussure and the early structuralists emphasized the primary importance of speech over writing, linguists have assumed that writing was nothing more than an attempt to represent speech either on the basis of sound or ideas. Consequently they preferred to focus their attention on the spoken word, doubting that written language is a legitimate object of linguistic investigation. Indeed, if the written language, the grapholect, is no more than recorded speech, there is little reason to investigate it independently. However, if the grapholect has unique features, it is as deserving of researchers' attention as spoken dialects are.

Most studies addressing ways in which the written language may be unique have been mainly literary such as Walter Ong's Orality and Literacy. (1982) His focus is on stylistic features such as coordination as opposed to subordination, extent of vocabulary, etc. While these features may have validity, the linguistic researcher cannot be satisfied with Ong's impressionistic generalizations which are not supported by quantitative evidence. Furthermore, stylistic features will always be a somewhat vague and slippery approach to investigating the difference between written and spoken language. There is too much individual variation for us to try to define the characteristics of the grapholect on the basis of such features. Far too many people have everyday speech which sounds like formal or even frozen style while others write in a consultative, even casual style, all without seriously violating appropriateness conditions.

If style then is not a profitable approach to differentiating the grapholect from other dialects of English or any other language, how is it to be done? I suggest that we look at the features of the written language which are unique to its medium of transmission -- the visual aspects of writing: spelling, punctuation, capitalization, etc. It is here at this very basic level that obvious differences exist. By examining these components of the grapholect and how they are used, we can begin to answer the implicit question: Is written English a separate, independent dialect of English worthy of scholarly attention, or is it merely the inadequate result of attempts to represent the spoken language as linguists have assumed?

First let us examine the assumption that the purpose of the written language is solely to represent the spoken language. Certainly phonetic writing systems seem to have had that goal, at least initially. The findings of scholars indicate that in the medieval period voiced reading was a common practice, especially among the less well educated new readers. (Hirsch 1967; Chaytor 1945) Furthermore, diachronic studies of English have shown that most divergences from sound/symbol correspondences are the result of changes in pronunciation and that spellings are frequently representative of an earlier version, a sort of linguistic fossil.

Although the relationship between spelling and pronunciation is no longer a one-to-one correspondence between symbol and sound, there are still many regular patterns reminiscent of the earlier phonetic relationship. However, spelling represents speech word by word, and speech, more often than not, occurs in units larger than the single word. These units include prosodic features which the present English alphabet is unable to capture. Pauses, intonation contours and emphasis cannot be rendered through spelling and thus must be indicated either through context or by using some other visual signals.

Popular opinion would have it that punctuation is responsible for indicating the pauses and intonation contours of the spoken language. However, A. C. Partridge (1964) points out that punctuation first served as a mark of separation in very early manuscripts, became an instrument of textual and syntactical elucidation, and then acquired its time-pause function in the middle ages. Rudolf Hirsch (1967) agrees, citing the spread of literacy as a contributing factor:

> The spread of reading also affected inter-punctuation. As long as the main method of communication was oral (the preacher delivering his sermon, the town-crier reading the proclamation, the poet reading his works, etc.) accents and emphases were tonal; they needed not to be written down. This changed when more and more people began to read for themselves; periods, commas, question and exclamation marks were necessary to make clear the meaning of the text.
> (Hirsch 1967: 136)

By the eighteenth century grammarians had assigned a specific pause length to each of the major marks of punctuation. The pause for a semicolon was considered to be twice that of a comma; the colon was three times as long; and the period, question mark or exclamation point indicated a pause the length of four commas. (Husband 1905) How accurate these values were in elocution can be only a matter of conjecture. It may be significant to note that at the same time punctuation or the art of

pointing was becoming specific with respect to time-pause, grammarians were also moving steadily in the direction of defining the use of points on a grammatical basis so that by the mid-nineteenth century grammarians said far more about punctuation's marking grammatical structure than its determining pauses in oral presentation. (Fries 1925; Honan 1960) While modern composition teachers frequently urge students to punctuate according to the way in which they read a sentence, students soon learn they follow such advice at their own peril since pauses in speech are usually motivated by physical and pragmatic considerations instead of grammatical structure.

Some marks of punctuation such as the apostrophe and the period in abbreviations have no articulatory value and cannot be viewed as representing a feature of speech. The use of uppercase letters is another grapholect variable which has no counterpart in the spoken language. Because they cannot be heard, both apostrophes and capital letters serve primarily redundant functions, indicating possession or the beginning of a new sentence. Is there then any reason for adhering to such usage conventions? What constructive purpose can they, and other punctuation as well, have, if they do not represent the spoken language?

Frank Smith has pointed out that punctuation is arbitrary and conventional, does a poor job of representing how speech actually sounds, and less to do with the sound of spoken language than is usually thought. (Smith 1982: 154) He suggests that punctuation "reflects the structure of meaning in written language, providing a visible spatial framework for the sense of what is being said. Punctuation marks out the connected and embedded meanings in text, tracing how an argument or narrative is progressing." (Smith 1982: 156) Smith believes that punctuation serves to confirm a reader's interpretation of a text, a possibility which he claims is "consistent with the more general views that reading always involves anticipating what the writer is likely to do." (Smith 1982: 159) In other words punctuation is positive reinforcement offered by the writer to readers in order to assure them that they have understood. Smith's views make sense for many uses of the period, comma, semicolon, question mark, and exclamation point, but is it as satisfactory for explaining some of the other punctuation whose use is intended to be more rhetorical than grammatical?

E. L. Thorndike's (1948) study of the psychology of punctuation provides an interesting insight to such rhetorical usage. He chronicles the rise in popularity of the ellipsis. At first it was used simply to indicate that part of the text had been omitted. Thorndike found no occurences in his sample of eighteenth century fiction writers and only a few in nineteenth century writing. They involved a slight expansion from the original purpose, indicating the omission of a character's

thought or feeling. Among twentieth century fiction writers, usage increased dramatically and the significance became less clear. George Summey (1919: 64) had described "suspension periods" as suggesting a "meditative pause." Thorndike, however, questioned Summey's interpretation by pointing out the frequency of their appearance in Superman: 90 ellipses per thousand marks of punctuation. Thorndike himself was not sure what the value of the ellipsis was or why it was so popular:

> Whatever positive values it has to readers have accrued to it from the contexts in which they have seen. These are probably very slight. I myself read all of George Meredith's novels and most of H. G. Wells' without acquiring any meaning whatever for '...'. Nor did a wide reading of other books that I now know contained thousands of '...' attach any meaning to it. Not until I found it abounding in my counts of punctuation, did I ever think anything about it.
> (Thorndike 1948: 225-26)

What would Thorndike make of a modern romance writer like Barbara Cartland who uses ellipses liberally to indicate hesitation, breathlessness, or nervousness in her characters? It is immaterial where the ellipsis occurs in the utterance (some of the resulting sentences are not intuitively acceptable to me); what is important is that they are present. The precise impact on the reader depends on the fictional context. The writer is using punctuation to communicate meaning to the reader. This communication is achieved, not by a precise representation of sound, but by a visual signal only vaguely related to articulation, drawing more on a reader's experience than on a sound/symbol correspondence.

Are there other examples of authors' using visual signals to manipulate the reader's response, for its rhetorical or even emotional impact? One example is Robert Southey's classic, "The Story of the Three Bears." (1837) Different type size and font were used to show the difference in speech among the bears: 14 point bold Gothic for Papa Bear; 12 point Roman for Mama Bear; and 8 point Italic for Baby Bear.

A less dramatic example can be found in a rapidly growing use of the colon in the sentence pattern NP : NP. (Little 1984) When the colon replaces the verb to be, it achieves a heightened rhetorical effect, emphasizing the juxtaposition.

> They arrested his teenage children on charges of hiring a gunman to kill their father. The price: $60. (Newsweek)

Compare the impact if the sentence is read, "The price was $60."

A problem for technical writers and terminologists is the visual delimitation of names and terms within a text. (Goluvin 1982) In addition to spacing and type variation, punctuation and capitalization have been used successfully to make clear what is a technical term. Capitalization can be used to desiginate the significant letters of words to appear subsequently in an acronym. Another purposeful use of capitalization by writers is the elevation of certain words since proper nouns seem to acquire special status. In the academic context, reports which cite disciplines often promote history or physics to proper noun status in order to preserve their parity with English or French. Indeed, there are still examples of English texts which capitalize the significant nouns, a common practice in the nineteenth century.

It is clear that the English grapholect is not simply a visual representation of sound. While it may be unable to capture all the components of the spoken language, it offers a writer the opportunity to convey additional information not available in an oral statement except through context. Therefore punctuation can serve a function other than that of representing speech. Smith (1982: 159) hypothesized that writers use punctuation to help themselves and their readers keep track of what they have written. I have suggested that they may also use it along with other visual aspects of the written language to guide, even control the response of the reader. However, we do not fully understand this capability. Current research on the relationship between written and spoken language has been carried on at the macro-linguistic level by scholars from a number of disciplines. (Tannen 1982; Tannen, 1981) It is time for linguists to take a closer look at the grapholect and its components.

When Saussure asserted that written symbols were not linguisitic signs but written images of vocal signs (1959: 24), he was not including the visual elements of communication I have discussed here. Once the grapholect has moved beyond representing vocal signs, it begins to develop linguistic signs of its own. Linguists need to take note of these developing signs and how they operate. We need descriptive studies outline exactly how these signs are currently being used. We need experimental studies to investigate how the understanding of a text and the impact of a message on a hearer may be affected by these signs. There are some clear indications that written English is evolving into something at once both more and less than speech. This new species of English deserves the serious attention of linguists.

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THE SWABIAN FIRST PERSON PLURAL

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Swabian is a dialect/language in the Upper German group spoken in most of Baden-Württemberg and in the western edge of Bavaria. Closely related with Alemannic, it is more accurately treated as a direct descendant of Middle High German (MHG) than as a variant of New High German. Swabia itself is divided into four main dialect regions--Baden in the west, Lechrain in the east (the Bavarian region up to Augsburg), and the central area of Württemberg with Oberland in the south and Unterland in the north. (Compare Griffen in press b.)

While these regional dialects and their subdialects contain many differences, the basic present-tense verb conjugation is quite consistent (see, especially Bohnenberger 1928: 45-9; also Dreher 1919: 92-4, Heissel 1935: 31-2, Keinath 1930: 23-4, Moser 1937: 67-70). In figure 1, we find this conjugation of the Swabian verb /tręffə/ 'to meet' compared with its Middle High German ancestor trëffen.

Middle High German	Swabian
ich triffe	i triff
du triffest	du triffšt
ër triffet	ęr trifft
wir trëffen	mir tręffət
ir trëffet	ir tręffət
sie trëffent	si tręffət

Figure 1: Middle High German trëffen
Swabian /tręffə/ 'to meet'

The Middle High German used here and throughout this paper is the "normalized" version found in Wright 1907 and 1957. The Swabian is likewise the broad notation underlying a normalization currently in progress. As such, it represents a cross-section of Swabian dialects, and in this matter of the verb conjugation this precise realization is widespread.

Examining the first person plural, we find a major innovation from the Middle High German both in the pronoun and in the verb inflection. Insofar as the pronoun is concerned, the cause of the change from wir to /mir/ is rather transparent. Evidently, the inverted sentence order with the verb preceding the pronoun subject brought the nasal ending into contact with the labial glide, and there ensued an assimilation. Thus, the nasality of the ending in MHG trëffen wir extended to constrain the

initial glide of the pronoun, yielding /w̃ir/. The nasalized labial glide changed to the more familiar labial nasal /m/, and the form /mir/ was born.

Such a development is not unexpected, especially in High or Upper German. A similar process in Old High German resulted in the -st in place of the old -s second person singular ending. The inverted word order brought together such combinations as OHG triffis du 'meetest thou', which was pronounced as the unit /triffistu/. When the pronoun was removed from the inverted order, it left behind (so to speak) a copy of itself permanently attached to the inflectional ending--du triffist (Wright 1907: 214). Indeed, this process occurred throughout the West Germanic languages.

The situation in Swabian, however, is more complicated, for the first person plural verb form changed as well, from trëffen to /tręffət/, with a final /t/. This /t/ is actually realized in most Swabian dialects as [d] through the word-final neutralization of aspiration, and other dialects realize an unaspirated [t̅].

If all we had to contend with were the Middle High German and the Modern Swabian forms, the analysis of this problem would be simple and straightforward. We could say that the nasal feature from the /n/ was transferred from the final consonant of the ending to the initial glide. As only the nasal feature was removed, the other features of the consonant could remain intact, yielding simply [d] (or unaspirated [t̅]). Such an analysis would be particularly attractive in the dynamic phonological framework, which in fact does allow for the transference of features from one syllabic position to another both by metathesis (Griffen 1981) and by eclipsis (Griffen in press a).

Moreover, this analysis appears to be all the more credible given the development in the infinitive and the other plural endings. Quite clearly, the nasal was lost from the final combination /ən/ (a process we see also in other forms in the language), yielding the infinitive /tręffə/ from trëffen and the third person plural /tręffət/ from trëffent. Had the nasal remained in the first person plural ending, we might argue, the result would have been the form */tręffə/. Inasmuch as this was not the case, and the first person plural is rather identical to the second person plural /tręffət/ (from trëffet), we might surmise that the first person plural in fact derived from the loss (through transference) of the nasal feature only, leaving not a nasal consonant in the ending, but rather its weak (nonnasal) member of the archiphoneme.

While the concept of feature transfer may offer a neat and tidy solution to a curious innovation and may indeed provide the phonologist with an interesting and gratifying problem, we ought to bear in mind that the actual history of a language tends to be rather more messy than tidy and not at all predisposed to providing the phonologist with simple and gratifying solutions. A closer examination of the historical intermediate forms as well as of other, irregular verb forms in Modern Swabian paints a picture that is far more complex, though no less interesting.

As we find in Kauffmann 1890: 263, the source of nasality in Swabian /mir/ was quite clearly the first person plural ending. In the writings of Niclas von Wyle, published in 1478 by K. Fyner in Esslingen, we find such citations as daz wir aber . . . so finden mir 'that we though . . . thus we find' (page 336 of original). When the pronoun occurred before or

separate from the verb, the traditional wir was used; but once it came after the verb in the inverted order, the glide assimilated to the nasal, yielding mir. The existence of the -en ending in the late fifteenth-century work, however, reveals that this was not some case of feature transfer, but rather one of simple assimilation, with no lasting effect on the host nasal. Indeed, this fact can also be observed in modern dialect forms of the verb 'to be' that do not have the /t/--for instance [wę̄rəmr] < wären wir 'were we (subj.)' and [sẽmr] < sind wir 'are we'.

So where did the /t/ come from? After all, the Swabian does not say */mir tręffən/ or */mir tręffə/, but /mir tręffət/. Once again, Kauffmann (ibid.) provides us with the pertinent data in the form of an undated manuscript known as the cod. theol. et phil. no. 11 also from the fifteenth century (and probably contemporary with Niclas von Wyle). In this manuscript, we find both werdent mir and werdent wir 'shall we'. Furthermore, from Heinrich von Stainhöwel's Aesop, published about 1480 by Johannes Zainer in Ulm, we find the form mir gänd '(should) we go' (page 204 of the original). Once again, the use of d would simply result from the fact that the consonant in final position was necessarily unaspirated.

Rather than clearing things up, though, finding the source of the /t/ rather muddles the whole affair even more, for we find not a neat, simple loss of the /n/ through the denasalization of the unstressed ending nor even a replacement of the /n/ by the /t/ through a conspiring archiphonological realization. Rather, what appears to have been happening here was the addition of /t/ to the ending while the /n/ was still present.

Once again, the phonologist would like a direct resolution of this problem by phonetic or phonological means. Such an easy solution might in fact appear promising in the rather widespread practice of excrescence in Swabian. For example, MHG hanf 'hemp' has become Swabian /hãmpf/. In such an instance as the first person plural, however, the excrescence should be accompanied by labial assimilation, and it would also run counter to assimilation patterns in the language that actually dropped the dental in such cases--for example, MHG grunt 'ground' + birne 'pear' yields Swabian /krõmbīr/ 'potato' (Kauffmann 1890: 264--compare also the form [sẽmr] noted above).

To find the source of the /t/, we must go to the irregular, "contracted" verb forms. These forms did not have the MHG e /ə/ in their inflectional endings and consequently did not lose the nasal from the unstressed /ən/ combination. Just what this seemingly unrelated fact has to do with the matter at hand is revealed when we compare the present-tense contracted verb conjugation in Middle High German and Swabian in figure 2.

From this conjugation we find that not only did the first person plural add a /t/ after the /n/, but the second person plural added an /n/ before the /t/. What we find here, then, is neither phonetic nor phonological change, but analogic leveling in which the third person plural ending generalized to all plural persons. Thus, the forms werdent wir/mir that coexisted in the late fifteenth century reflect the replacement of the first and second person plural verb inflections by the third person plural. (Compare also Moser 1937: 69.)

Middle High German	Swabian
ich gān	i gõn
du gāst	du gǫ̃st
ër gāt	er gǫ̃t
wir gān	mir gõnt
ir gāt	ir gõnt
sie gānt	si gõnt

Figure 2: Middle High German gān and Swabian /gõ/ 'to go'

When we examine the endings involved here in the light of the general tendency in Swabian to shorten the end of words, the choice of the long third person plural ending would appear to be rather problematical. Indeed, from the viewpoint of phonology and morphology alone, such a choice does not appear to make much sense. Nevertheless, that it was the third person plural ending that generalized throughout the plural persons is quite clear from the forms found in Langenargen, an extremely conservative Swabian dialect in the southeastern part of the Oberland region. In this dialect, [tręffnt] is still realized in all persons, clearly maintaining the old third person plural ending (Bohnenberger 1928: 47). Moreover, from historical records, we also know that the second and third person plural verb endings first fell together throughout Common Alemannic, and then the second/third person plural ending extended to the first person plural in Swabian (Heissel 1935: 32).

Once again, however, linguistic change can be a rather complicated process, and we should look for the justification for this problematical analogic leveling in the sociolinguistics of address:

In Middle High German, social intimation was expressed in the choice of the singular or of the plural second person. Speakers with an intimate relationship would address each other in the second person singular du, while those with a formal relationship would address each other in the second person plural ir. By the end of the fifteenth century, however, an innovation had taken place. In referring to someone as eure gnaden 'your graces' or similar highly polite plural forms, one could not then refer to the person directly as ir 'you', but had to use sie 'they', referring to the graces (compare Wright 1907: 219). In the seventeenth century, the use of Sie (capitalized) supplanted ir as the polite form of address altogether in Early New High German and extensively in Upper German as well.

In the historical development of these forms of address, then, the speakers and writers of the fifteenth century found themselves in a period of transition. I would contend that it was due to social pressures to refer to a nonintimate person directly as a plural and (in this newer type of reference) as a plural attribute that the distinction between second person plural and third person plural came to be somewhat confused. This confusion lead to the conjunction of the second person plural pronoun with the third person plural verb form. With two persons agreeing in their inflection, it was only a small step to generalize the second/third person plural ending to the first person plural.

Now that we have taken this seemingly neat and tidy phonetic change through the bothersome little details of morphology and sociolinguistics, let us summarize the meandering path of change that lead from MHG wir trëffen to Swabian /mir tręffət/:

1. Syntactically Motivated Phonetic Assimilation: In inverted sentence order, the nasality of the first person plural verb ending prosodically extended to the (enclitic) personal pronoun, changing MHG wir through /w̃ir/ to Swabian /mir/.
2. Sociolinguistically Motivated Analogic Leveling: Due to confusions between the second person plural and the third person plural in formal address, the third person plural verb ending generalized to the second person plural. Simultaneously with the assimilation, the common second/third person plural ending generalized to the first person plural.
3. Phonetically/Morphologically Motivated Denasalization: After the first two steps were complete, the /ən/ combination in all weakly stressed inflectional endings underwent a simple loss of the nasal. Judging from other forms in the language, this would have been accomplished through an intermediate stage with a nasalized vowel /ə̃/, leading to the simple loss of the nasal prosody.

Thus, MHG wir trëffen /wir tręffən/ 'we meet' would have been realized as /tręffən wir/ in inverted word order, leading to the assimilation through /tręffən w̃ir/ to /tręffən mir/. While this process was taking place, the form /tręffənt/ would have come into competition with /tręffən/, eventually winning out. Finally, the form /tręffənt/ would have been realized with a nasalized schwa in /tręffə̃t/, and the nasalization would have been lost due to its lack of stress in /tręffət/. All of this would have gone into making the change from /wir tręffən/ to /mir tręffət/, as summarized in figure 3.

MHG wir trëffen - tręffən wir > w̃ir > mir

> tręffənt

> tręffə̃t

> tręffət

Swabian /mir tręffət/

Figure 3: Summary of Changes

In the general view of historical linguistics, the tortuous development of the Swabian first person plural should have some rather sobering implications. Earlier in this paper, I suggested an analysis involving feature transfer--a perfectly legitimate concept in phonetic/phonological

change. If all we had were the Middle High German and the Modern Swabian forms from the principal dialects, the contracted verbs could easily be swept away as anomalies (which, indeed, they are considered to be--compare Wright 1955:53), and the feature-transfer analysis would stand in all of its simplicity and tidiness--and inaccuracy.

For those of us concerned with the analysis of old dialects and of languages with sparse written evidence and especially for those of us concerned with reconstruction, the Swabian first person plural should be a disquieting lesson indeed. On the one hand, we see that what might appear to be simple phonetic change may in fact involve many different levels and aspects of language in a complex of change. From this we should learn that simple and direct solutions are not to be taken for granted in historical linguistics. Yet on the other hand, it may very well be that all we have available to us is the bare result of change, allowing only the simplest and most direct solution. From this we should learn how tenuous even the best of our analyses are.

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SPANISH O AND A: TO BE OR NOT TO BE MORPHEMES?

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On the first day of a beginning morphology-syntax class in a Mexican university, I frequently check the students' prior linguistic knowledge by asking how many morphemes[1] are included in certain Spanish plural nouns which end in o (and are masculine gender) or a (and are feminine gender), words such as platos ('plates') and mesas ('tables'). Inevitably some will say two, others three. Since I am not a Romance language specialist, the question has come to me: How do scholars in that field analyze the o and a endings? Most of the scholars I have questioned haven't spent any time thinking about the problem. Evidently the traditional term used for the gender markers is "desinencias," without reference to their morphemic status. There has been much work done on the historical aspect of gender in the Romance languages, but I am especially interested in the synchronic analysis. So what I want to do in this paper is 1) present a brief survey of some of the problems involved, 2) mention some possible solutions, and 3) get some input from hearers and/or readers.

I THE PROBLEMS

Gender in Spanish is primarily a syntactic feature, marked morphologically by agreement of adjectives and articles with the head noun. Every noun belongs to one of two gender classes--masculine or feminine (or in a few cases, they belong to both). Many adjectives end in the vowel o to agree with masculine nouns and a to agree with feminine nouns, although others are invariant. The articles and demonstrative adjectives (in their singular forms) are as follows:

	'the'	'a'	'this'	'that'	'that (distant)'
masculine:	el	un	este	ese	aquel
feminine:	la	una	esta	esa	aquella

Examples: el escritorio largo 'the long desk'
la mesa larga 'the long table'

At first glance it would seem that the morphology of the nouns is fairly clear and simple, since many nouns are like the two illustrated above, ending (like the adjectives) in o if masculine, a if feminine. However, there are a number of anomolies in the patterns, and among linguists there is no clear agreement as to the morphemic status of the o and a endings of even the most

common patterns. The following are six groups of nouns which present analytical problems.

1. In addition to the type of nouns illustrated above (arbitrary classes ending in o if masculine, a if feminine), many nouns end in one of the other three vowels (e, i, u) or in a consonant. This group includes both animate and inanimate nouns. Each of these belongs, of course, to one or the other of the gender classes; and in the case of animate nouns, the grammatical gender is in accord with the sex of the referent. Some of these animate nouns have completely different forms for the masculine and feminine gender, while others end in a in the feminine form. Examples:

a) el color 'the color' (m)
   la cárcel 'the jail' (f)
b) el hombre:la mujer 'the man:the woman'
c) el señor:la señora 'Mr.:Mrs.'
   el jefe:la jefa 'the male boss:the female boss'

2. A second group includes only animate nouns, and the same stem ends in o for masculine gender (and male sex), a for feminine gender (and female sex). Examples:

el niño:la niña 'the boy:the girl'
el hijo:la hija 'the son:the daughter'

3. A small group of nouns have the vowel ending with the opposite gender relationship, i.e., though ending in a, they are masculine, or though ending in o, they are feminine. Examples:

una mano chica 'a little hand'
un día precioso 'a beautiful day'
un mapa detallado 'a detailed map'
un morfema raro 'a rare morpheme'

4. Still another minor group of animate nouns has only one form, i.e., ending in o or in a, and take the appropriate grammatical modifiers, regardless of the sex of the referent. Examples:

el miembro 'the member' (Ella es miembro de un club. 'She belongs to a club.')
la persona 'the person' (El es muy buena persona. 'He is a very good person.')

5. Unlike group 4, another small group of animate nouns (some of which are probably derived forms) all end in a but may occur with either masculine or feminine modifiers, according to the sex of the referent. Examples:

el/la idiota 'the idiot'
el/la indígena 'the indigenous person'
el/la lingüista 'the linguist'

6. Finally, a group of inanimate nouns which carry different meanings in masculine vs. feminine gender. Some are completely unrelated in meaning, while others are partially related. Examples:

a) Completely unrelated:

el caso:la casa 'the case:the house'
el libro:la libra 'the book:the pound'
el acero:la acera 'the steel:the sidewalk'

b) Partially related--plant or tree vs. its fruit:

el naranjo:la naranja 'the orange tree:the orange'

c) Partially related--miscellaneous:

el fruto:la fruta 'the yield of a plant, the results (figurative):the fruit (edible)'
el gramático:la gramática 'the grammarian:the grammar'

In summary, the principal groups mentioned are:

1 c) and # 2: animate nouns which are clearly related and can change the ending to correlate with the sex of the referent; compared with # 5, words which end only in a but which take masculine articles to refer to the masculine sex, feminine articles for feminine sex.

3: irregular forms which end in a for masculine gender, o for feminine.

4: animate nouns which belong to either masculine or feminine gender, but are not related to the sex of the referent.

6: words which have the same form except for the vowel endings; some are clearly homophones, while others have related meanings.

II THE SOLUTIONS

I have not been able to locate a great deal of direct treatment of the morphemic status of the noun gender markers in the literature, though they are frequently mentioned in passing within other theoretical discussions. Summing up some of these references together with options expressed to me in correspondence and interviews, I would like to present three potential solutions.

Solution A

According to the first potential solution, the vowel endings need never be separated as morphemes. This view was expressed to me by my colleague in the Summer Institute of Linguistics, Benjamin Elson. Dr. Elson considers the similarity between the pairs of words in # 2 to be fortuitous.

Solution B

A second possibility is to treat o and a as always morphemes separate from the stem. If I have understood the scholars correctly, this is the view of William W. Cressey (Georgetown University), Alfredo Hurtado (Simon Fraser University), Mauricio Pilleaux (Universidad Austral de Chile), Ambrosio Rabanales (Universidad de Chile), Eugene A. Nida (American Bible Society), and Jorge Nelson Rojas (University of Nevada). Not all are agreed as to the exact "meaning" of the o and a endings, or if indeed they have any clear recognizable meanings, but the analyses have in common the morpheme cut between the stem and the o and a vowels. (Some also consider the e ending to be a separate morpheme.) The following are summaries of various analyses within this general view.

1) Cressey does not call the vowel endings precisely "morphemes" (they are products of phonological rules), but they seem to have the characteristics of morphemes. He includes the stems in the lexicon without the final vowel, and the endings are seen as features of gender applied by transformational rules (1978, personal communication).

2) Hurtado claims the endings do not have the meaning of gender, but are nevertheless to be recognized as morphemes (personal communication).

3) The publications of Professor Pilleaux are very thorough treatments of derivational suffixes, and although the vowel endings are not especially in focus, he does consider them to be morphemes separate from the basic stems (personal communication).

4) The Rabanales analysis I take from his paper presented at the third congress of ALFAL (1971). Professor Rabanales uses a

different set of terms (rema, monema, gramema, flexema, aloflexo, etc.), which does not include the term "morpheme". But he indicates that the vowel endings of nouns (or even those which are implicit) are "gramemes" and carry "categoría de género". Words such as niño:niña have two gender characteristics, -o- and -a-, while those of the class of escritorio (arbitrarily masculine) and mesa (arbitrarily feminine) have only one.

5) Nida wrote me the following comment regarding the title of this paper: "With regard to the Spanish -o...[since] these are gender items, then clearly they are syntactic markers, and as such should have the status of being morphemes. For example, we consider to a morpheme in English because it simply marks infinitives."

6) The following statement by Rojas is from an unpublished manuscript "A Note on Carlitos": "Rojas (1972) claims that Spanish nouns fall into one of two morphological classes: Class I nouns, or nouns ending in -a or -o, and Class II nouns are all other nouns. Only Class I nouns have an internal morpheme boundary, and are thus segmented into a stem (the noun minus the final vowel) followed by a gender marker (the vowel -o is gender marker 1 and the vowel -a is gender marker 2.)"

Solution C

In a third type of analysis, the o and a endings are sometimes morphemes, sometimes part of the stem. Within this general view, however, there is some variety as to specifics of analysis. The following are three expressions of this viewpoint.

1) Yakov Malkiel (University of California, Berkeley) wrote me the following comment: "Traditionally, the endings -a, -e, -o of Spanish nouns and adjectives have been classed as 'desinences' without reference to their morphemic status. If -a in doctor-a signals feminine (grammatically) and refers to a real-life female, -a performs no such service in dí-a ('day')...Yet -a, -e, -o have in common the fact that they must be sloughed off in derivation: doctor-ado ('doctorate'), grand-eza ('greatness'), anch-ura ('width'), etc.; so it is safest to say that -a, -e, -o are segments occasionally or mostly endowed with morphemic status."

2) Ricardo Maldonado (Escuela Nacional de Antropología e Historia, México). The a and o endings are morphemes only in the group of nouns which have two endings (jefe:jefa, niño:niña, etc, from my groups 1 and 2). All others are parts of the stems (personal communication).

3) The most thorough treatment of the problem which I have been able to locate is that of Frederick Agard (Cornell University). Professor Agard has presented his analysis of the morphology of Spanish nouns, together with that of other Romance languages,

in various publications, including a new pedagogically organized book to appear soon (1984). The following is a brief summary of Professor Agard's analysis, derived from a portion of the forthcoming book and from personal correspondence:

The o and e endings are never separate morphemes, and the a is a morpheme only in the small set of feminine forms of animate nouns which end in a in contrast to the masculine form ending in o, other vowel, or a consonant (señor:señora, jefe:jefa, niño:niña). In these cases, the basic stem form for the lexicon is the masculine form (señor, jefe, niño). The -a ending is a suffixal morpheme meaning 'female of the species' and is derivational, not inflectional, a member of the same lexical subclass as such suffixes as -esa in condesa ('countess') or princesa ('princess'). When the -a suffix is added to stems ending in a vowel, there are resulting morphophonemic vowel reductions.

This has been a very rapid and superficial summary of some of the problems regarding the gender markers of Spanish nouns (there are more problems than time for this presentation allows) and a few suggested solutions. Some of the solutions mentioned are admittedly incomplete, due to my lack of full information on the scholars' views of the specific groups of nouns mentioned here.

My personal view, after making this investigation, is that this may be an instance in which we should not try to be exact about the morphemic analysis of the vowels in the descriptive linguistic sense. Perhaps the traditional approach is best--they are simply "desinences", without further commitment as to their morphemic status. Or, the generative phonology view, with the endings as products of phonological rules, again without commitment as to their morphemic status. I do not control this model sufficiently, or have available sufficient information, to know how it would affect each of the groups mentioned here.

If, however, one does wish to make a definite commitment, I prefer the analysis type C, as specified by either Maldonado or Agard. Viewpoint A (no morpheme cut whatsoever) leaves us with such words as niño and niña as monomorphemic homophones, an analysis which does not seem esthetically satisfying. The descriptions available for analysis type B are not sufficiently complete to clarify their analyses of several of the problem spots.

With this, I leave the problem with you, hoping for further insights from the readers.

FOOTNOTE

[1] morpheme in terms of the tradition of descriptive linguistics.

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THE DISTRIBUTION OF TENSE MARKERS IN THE MALAGASY SIMPLE CLAUSE

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0. Introduction

This paper examines the realization of tense markers on certain clause constituents in Malagasy, a Western Austronesian language of Madagascar. The proposed stratificational approach involves treating tense as occurring over the entire clause (via an unordered AND), with the actual distribution of tense markers handled by the interaction of the lexotactics and a new type of node, the CONCORD ELEMENT.[1]

Certain verbs in Malagasy inflect for tense, the tense marker taking the form of a prefix; witness the data in Table I, where the present tense (PRES) is indicated by m-, the past (PAST) by n-, and the future (FUT) by h-.[2]

Table I: Some data on tense marking in Malagasy verbs.

MALAGASY	GLOSS
m-isotro kafe aho PRES-drink coffee I	'I drink coffee.'
n-isotro kafe aho PAST-drink coffee I	'I drank coffee.'
h-isotro kafe aho FUT-drink coffee I	'I will drink coffee.'
m-andeha aho PRES-go I	'I go.'
n-andeha aho PAST-go I	'I went.'
h-andeha aho FUT-go I	'I will go.'

Certain adjectives also inflect for tense when occurring as predicates, as shown in Table II. Note that there are several classes of adjectives which must be distinguished (not all of which are represented here).[3] Note, however, that adjectives which inflect for tense as predicates do not exhibit tense distinctions when functioning as modifiers within the clause, as indicated in Table III.

Table II: Tense marking on certain types of adjectival predicates.

MALAGASY	GLOSS
m-afana ny kafe PRES-hot the coffee	'The coffee is hot.'
n-afana ny kafe PAST-hot the coffee	'The coffee was hot.'
h-afana ny kafe FUT-hot the coffee	'The coffee will be hot.'
m-aditra ny ankizy PRES-naughty the children	'The children are naughty.'
n-aditra ny ankizy PAST-naughty the children	'The children were naughty.'
h-aditra ny ankizy FUT-naughty the children	'The children will be naughty.'
Ø-tsara ny lesona PRES/PAST-good the lesson	'The lesson is/was good.'
ho-tsara ny lesona FUT-good the lesson	'The lesson will be good.'
Ø-vita ny raharaha PRES/PAST-finished the work	'The work is/was finished.'
ho-vita ny raharaha FUT-finished the work	'The work will be finished.'

Table III: Non-inflection of adjectives within the clause.

MALAGASY	GLOSS
m-isotro kafe m-afana aho PRES-drink coffee PRES-hot I	'I drink hot coffee.'
n-isotro kafe m-afana aho PAST-drink coffee PRES-hot I	'I drank hot coffee.'
h-istoro kafe m-afana aho FUT-drink coffee PRES-hot I	'I will drink hot coffee.'
m-ividy boky Ø-tsara aho PRES-buy book PRES/PAST-good I	'I buy good books.'
n-ividy boky Ø-tsara aho PAST-buy book PRES/PAST-good I	'I bought good books.'
h-ividy boky Ø-tsara aho FUT-buy book PRES/PAST-good I	'I will buy good books.'

Tables IV and V show the inflectional characteristics of a class of words which may be called locatives; such words inflect for all three tenses when functioning as predicates, but show only a PAST/NONPAST distinction when occurring elsewhere within the clause.4

Table IV: Inflection of locative predicates.

MALAGASY	GLOSS
Ø-aty ny vehivavy PRES-here the woman	'The woman is here.'
t-aty ny vehivavy PAST-here the woman	'The woman was here.'
ho-aty ny vehivavy FUT-here the woman	'The woman will be here.'

Table V: Inflection of locatives within the clause.

MALAGASY	GLOSS
m-isotro kafe Ø-aty aho PRES-drink coffee NONPAST-here I	'I drink coffee here.'
n-isotro kafe t-aty aho PAST-drink coffee PAST-here I	'I drank coffee here.'
h-isotro kafe Ø-aty aho FUT-drink coffee NONPAST-here I	'I will drink coffee here.'
m-ipetraka Ø-any aho PRES-stay NONPAST-there I	'I stay here.'
n-ipetraka t-any aho PAST-stay PAST-there I	'I stayed here.'
h-ipetraka Ø-any aho FUT-stay NONPAST-there I	'I will stay here.'

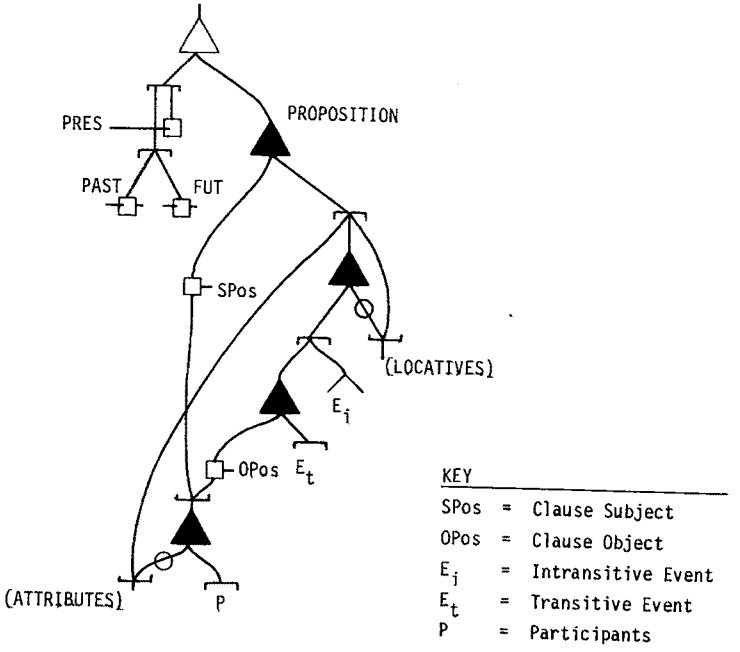
This completes the examination of the data to be considered in this paper. Let us now proceed to a description of the semotactic structure which will account for it.

1. The Semotactic Relations for Tense Marking

Figure 1 on the next page shows a network diagram which will account for the range of data discussed above. There is a semotactic PROPOSITION which is hierarchically dominated by an unordered AND node which relates it to tense sememes; here PAST and FUT are treated as marked, PRES as unmarked. In the absence of a signal for tesne from the lexotactics, the semotactics will automatically supply a token of PRES.

The PROPOSITION itself is also related to a PARTICIPANT (P) which is realized in clause subject position (SPos). This participant is optionally related to a semotactic class of ATTRIBUTES, which are realized as lexotactic adjectives; words such as <u>tsara</u>

Figure 1: Semotactic relations for data on Malagasy tense.



'good,' mafana 'hot,' and vita 'finished' fall into this class.

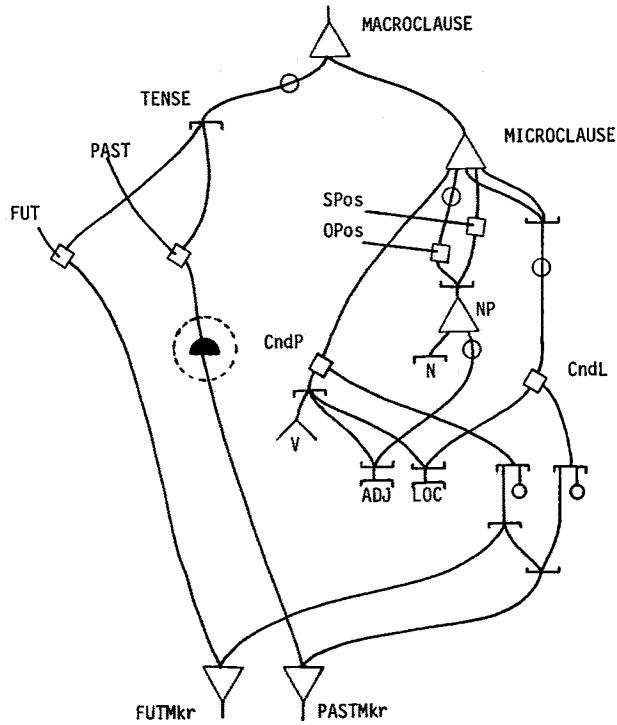
The remainder of the diagram indicates that the participant which surfaces as the subject can be related to (1) an ATTRIBUTE, (2) a LOCATIVE expression, (3) an intransitive event (E_i), or (4) a transitive event (E_t) which then occurs with a participant (and optional attribute) which surfaces as the lexotactic object (OPos). Note also that both transitive and intransitive events may occur with an optional locative. In the convention followed here, shaded AND nodes indicate arbitrary sequence rather than strict simultaneity, thus allowing sememes or groups of sememes to be processed according to lexotactic sequence in a model of performance.

At this point we turn to the lexotactic structure of Malagasy and its role in the realization of tense.

2. The Lexotactic Relations for Tense Marking

A lexotactics which properly accounts for the realization of tense on more than one clause constituent is presented in Figure 2 on the next page. Here there is a structure labeled the MACRO-CLAUSE which relates tense lexemes to a MICROCLAUSE vian an un-ordered AND, indicating that at the syntactic level, tense occurs simultaneously over the entire MICROCLAUSE. The optionality

Figure 2: Lexotactic relations for data on Malagasy tense.



element (the small circle) on the line leading to TENSE captures the fact that the absence of a tense lexeme is considered equivalent to the unmarked tense, that is, the present. When no tense is specified, words capable of tense inflection will automatically be supplied with present tense markers by the morphology.

The MICROCLAUSE specifies the linear order of clause constituents; in Figure 2, the MICROCLAUSE has up to five positions. In the first position is the predicate, which may be a verb (V), an adjective (ADJ), or a locative expression (LOC). The second position of the MICROCLAUSE, which is optional, accounts for the realization of semological participants as lexotactic objects via the line OPos which was also seen in Figure 1. The third position relates to an optional locative, the fourth position accounts for the lexotactic subject via the line SPos (also from Figure 1), and the fifth position in the MICROCLAUSE is again related to an optional locative. Both the subject and object positions are related to a noun phrase construction (NP) consisting of a noun (N) optionally followed by an adjective (ADJ). The details of locative expressions (LOC) are omitted here for the sake of brevity.

With respect to the predicate position, the DIAMOND node labeled (CndP) ensures that tense concord is correctly realized on verbs, adjectives, and locatives when they occur in this position. If there is no occurrence of a marked tense, this predicated concord will be realized as zero, thus resulting in present tense forms in the morphology. If, however, either FUT or PAST is present, there will be a portmanteau of the predicated concord with the tense lexeme, resulting in the future or past markers (FUTMkr, PASTMkr); the upward ANDs responsible for this are shown toward the bottom of Figure 2.

For locatives not serving as predicates, the concord relations are somewhat different, but are still accounted for by the same type of approach. The locative concord DIAMOND (CndL) only has an overt realization in the presence of the past tense lexeme (cf. Tables IV and V); there is no relation of the locative concord DIAMOND to the future tense marker when the locative does not occur as a predicate.[5] In this case the concord is realized as zero, and a nonpast form occurs.

Because there may be more than one constituent within the MICROCLAUSE which requires tense inflection, however, there must be some mechanism which ensures that such multimple concord takes place. This is the function of the shaded semicircular node that appears within the dotted circle just below the past tense lexeme; this node may be called the CONCORD ELEMENT. In a model of linguistic performance, this element is meant to provide conditioning signals as many times as may be required elsewhere in the network. Thus with respect to the Malagasy data, past tense will be realized with as many clause constituents as are able to inflect for it.[6] Witness the sentence below, which shows all five MICROCLAUSE positions filled, with the verbal predicate and two locative expressions being inflected for past tense:[7]

n-ividy ny kafe t-any aho t-amin' ny roa
PAST-buy the coffee PAST-there I PAST-at the two (o'clock)

'I bought coffee there at two o'clock.'

3. Conclusion

This paper has presented a brief introduction to one aspect of Malagasy syntax: the multiple realization of tense on clause constituents. Although certain aspects of this phenomenon have been omitted because of limitations on space, it is felt that the approach described here provides a firm foundation for a more detailed analysis. Furthermore, this approach is able to treat the occurrence of tense over the entire clause, thus avoiding the arbitrary linearization of tense (presumably clause-initially) with subsequent copying rules to ensure the proper inflection of various constituents.

ACKNOWLEDGEMENT

Thanks are due to Ms. Tétèlle Randrianja, native speaker of the Merina dialect of Malagasy, who served as the author's consultant. Errors of fact or interpretation are his sole responsibility.

NOTES

1. This node was first proposed by David G. Lockwood; see also his paper in this volume.

2. The future marker, written h- , is pronounced only in extremely careful speech; similarly, the alternate form ho, written as a separate word in standard Malagasy orthography, is usually pronounced [u].

3. The alternation in prefixes can be consigned to the morphotactics, details of which cannot be given here. Note that a stratal distinction between morphology and lexology in Malagasy is implicit in the analysis provided in this paper (cf. Lockwood 1972:75-126). Should a combined lexo-morphology be deemed more appropriate, the proposed treatment of tense would not need to be substantially altered.

4. With respect to the data in Table V, it should be mentioned that locatives in general do not inflect for the future tense when serving as non-predicate clause constituents. With the verb mandeha 'go' however, a locative may optionally be inflected for the future (cf. Garvey 1964:62). Witness the examples below, both of which are acceptable:

   (a) h-andeha any Amerika ny namako
   FUT-go there America the my-friend
   'My friend will go to America.'

   (b) h-andeha ho any Amerika ny namako
   FUT-go FUT there America the my-friend
   'My friend will go to America.'

   Incorporating this data into the lexotactic description given in Section 2 of this work would entail only minor changes, which can safely be ignored here.

5. But see the caveat in Note 4 above.

6. The performance of this node can be modelled in the micronode notation of Christie 1977 and most likely in the spreading activation model of network performance of Dell and Reich 1980 as well.

7. In this sentence, the word amin' 'at (a time)' takes the same inflection as 'spatial' (as opposed to 'temporal') locatives.

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FRENCH PRONOMINAL VERBS: A SEMEMIC APPROACH

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The difficulty encountered by English-speaking students in grasping the meaning of the French pronominal verbs resides not only in the infrequent usage of such lexotactic structures in English, but also in the polysemic nature of the "reflexive" pronoun which is a permanent satellite to each one of these verbs and often renders them ambiguous.

Pronominal verbs are so numerous in French that it has led traditional grammarians to talk about a pronominal voice besides an active voice and a passive voice. Pronominal verbs have been categorized in traditional grammars into 5 main groups:

1. reflexive pronominal verbs
2. non-reflexive pronominal verbs
3. reciprocal pronominal verbs
4. verbs being exclusively pronominal
5. pronominal verbs used as passive

The pronominal verbs with a passive meaning are frequently used as impersonal verbs. Examples:

1. Il *se regarde.*
2. Il *s'est aperçu* de son erreur.
3. Ils *se cherchaient* dans les ténèbres.
4. Je *me promène* sur le trottoir.
5. a) La porte *se ferme.*
   b) En un an, il *se brûle* beaucoup de bois dans la cheminée.

The above categories have some value. They identify correctly the different types of pronominal verbs. Their weakness stems from their lack of precision concerning the exact meaning of the "reflexive" pronoun. For the native speaker who knows through native intuition how to use the pronominal verbs, little more than the above categories is needed. But for the non-native speaker or student of French, these grammatical categories of pronominal verbs need to be supplemented with all the exact sememic value of the so-called "reflexive" pronouns as used in a given linguistic context.

Even the linguistic studies to date on this topic of French pronominal verbs have been syntactic in nature (Stéfanini, 1971: Dubois, 1967; Baylon & Fabre, 1973; Gross, 1968). They have done little to extract the students from the semantic labyrinth in which they find themselves when facing a pronominal verb.

The main goal of this paper is to identify as many as possible of the sememes of the "reflexive" pronouns. This will help to explain the numerous and diverse meanings of the French pronominal verbs. It will also, in many cases, bridge the sememic gap which appears to exist between the pronominal form of the verb and the same verbal form without its pronominal adjunct. In comparing the non-pronominal form of the verbs studied with their pronominal form, semantic types and connotations will be identified. The question of the idiomaticity of some French pronominal verbs will also be discussed.

1. Polysememic value of the preverbal pronominal form

A pronominal verb in French is a verb which in its lexemic shape is always accompanied by one of the so-called "reflexive" pronouns: *me, te, se, nous, vous, se.* For instance, in its conjugation, the verb *se laver,* an unmarked dictionary entry, will look as follows:

je me lave; tu te laves; on, elle, il se lave;
nous nous lavons; vous vous lavez; elles, ils se lavent

The untutored student learns that the sememes of these six lexemes are 'myself', 'yourself', 'himself', 'ourselves', 'yourselves', 'themselves'. Unfortunately, it is so only in a very general sense. The student must soon face the ambiguity of these pronominal forms because of their polysemic nature.

1.1 Accidental action, voluntary action, reciprocity

The polysemy of these forms is closely related to the person and number of the verb with which they occur. For instance, in *je me noie, tu te noies, il se noie,* the 'me', 'te' and 'se' are *bi-semic.* Indeed, *je me noie* means either 'I drown', accidental action (I am drowning) or 'I drown myself', voluntary action or suicide. The same is true of *tu te noies* and *il se noie* or *elle se noie.*

In the first, second and third persons plural, *nous nous noyons, vous vous noyez, ils se noient, elles se noient,* the ambiguity of the preverbal pronominal forms is *tri-semic,* for *nous nous noyons* can mean: 1) 'we drown ourselves' (voluntary action)
2) 'we drown each other' (reciprocity)
3) 'we drown, are drowning' (accidental).

The tri-semic ambiguity also exists for *vous vous noyez, ils se noient* and *elles se noient.*

1.2 Special meaning of the reflexive in English

To complicate the picture, a verb like *to wash* in English, when used in a reflexive way, is given added meaning as in *I am washing myself,* which must be rendered in French by *Je lave les parties intimes de mon corps. I wash* must be translated *je lave,* as in *I wash on Monday/Je lave le lundi (je fais le lavage le lundi)* and *je me lave,* as in *I am washing* (up/ a part of my body).

1.3 Possessive

When the pronominal verb is followed by a direct object lexeme referring to a part of the body, its pronominal adjunct also carries the sememe 'possessive' which must be realized lexemically in English by one of the possessive adjectives. Thus *I am washing my hands* becomes in French *Je me lave les mains* and not **Je me lave mes mains*.

1.4 Passivity and normality

The "reflexive" pronoun *se* can also carry the sememes 'passivity' and 'normality'. Thus the English sentence: *That is not (normally) said* in which the sememe 'normality' is not lexemically realized must be translated into French *Cela ne se dit pas*. Saying *On ne dit pas cela* would transfer the emphasis onto the *on*, insisting on the fact that there are people who don't say that; and *cela n'est pas dit* would translate the sememe 'passivity' but leave aside the sememe 'normality'.

1.5 Proximity and progressive aspect

The "reflexive" pronouns (*me, te, se, nous, vous, se)* can also carry the sememes 'proximity' and the progressive aspect, as in the verb *se mourir*, compared to its non-pronominal form *mourir*.

If I say: *The soldiers are dying*, the English progressive aspect must be translated in French by the verb *se mourir*, *Les soldats se meurent* expressing the sememe 'about to die' or proximity of the accomplishment of the action in progress. *Soldiers die* would be translated *Les soldats meurent*, in which the sememes 'proximity' and 'progressivity' are absent.

1.6. Inchoative aspect

Aspect is a category of the verb denoting primarily the relation of the action to the passage of time, especially in reference to the inception, duration, repetition and completion of the action. Some French pronominal verbs are used to express the *inchoative aspect* of an action, or an action in its very inception. (Darbelnet, 1977)

For instance, the verb *se mettre à*, 'to begin', 'to start', denotes the inception of an action as in: *Elle s'est mise à pleurer / She started crying*.

Both English and French oppose the duration of an action to its inception and have a different set of lexemes to render this dichotomy. Thus:

	ENGLISH	FRENCH
duration	*to fly*	*voler*
inception	*to fly off, to fly away to take off*	*s'envoler*
duration	*to sleep*	*dormir*
inception	*to go to sleep, to fall asleep*	*s'endormir*
duration	*to doze*	*sommoler*
inception	*to doze off*	*s'assoupir*

As revealed by the examples cited above, French tends to use a pronominal verb to denote the inchoative aspect of an action, while English uses a verb accompanied by a preposition.

1.7 Anthropomorphic value of the "reflexive" pronoun

It does happen that the non-pronominal form of the verb and its pronominal counterpart are lexotactically interchangeable. In such cases, it can be said that the "reflexive" pronoun is a syntactic dummy or a cranberry morpheme. It has a zero sememic value. Only the "reflexive" pronoun se will be allowed to be empty of meaning in French, either as the se of the unmarked dictionary entry or as the se with the lexical features 3rd person singular or plural, masculine or feminine.

Examples: *This pâté was kept too long; it has become moldy.*
On a gardé trop longtemps ce pâté il a moisi or *il s'est moisi.*

Milk sours easily.
Le lait aigrit or s'aigrit facilement.

The headache is going away.
Le mal de tête passe or *se passe.*

The same can be said of *gâter, se gâter* and *pourrir, se pourrir.* In these cases, the sentence has two surface structures for one deep structure. We are therefore dealing with stylistic meaning. The stylistic meaning which is conveyed in the above examples by using the pronominal verbs *se moisir, s'aigrir, s'arrêter, se passer, se gâter, se pourrir* with an inanimate subject, is that one gives these inanimate subjects anthropomorphic attributes which pertain solely to an animate agent. In traditional stylistics, this phenomenon is called personification.

1.8 Process or becoming

The sememe 'process' or 'a becoming' which reflects back on the subject and which in English is lexotactically realized by the verbs

to get, to grow or one of their synonyms plus a past participle, an adjective or a prepositional phrase, is in most cases rendered in French lexotactics by the pronominal form of the verb. This semenic value of the "reflexive" pronoun is by far the most common. It becomes much easier to assimilate the meaning of many French pronominal verbs once the English-speaking student has become aware of this fact. With all of these verbs, the reflexive sememic value of the pronoun which accompanies the verb has been seriously weakened. In many cases it has even disappeared completely. The action expressed by the verb is not an action that the subject performs actively on itself as an object of the action, but an action which it undergoes passively, under the influence of some outside force. All of these verbs are accidentally pronominal, i.e. they all exist in the language without their pronominal adjunct.

Examples of this are:

Non-pronominal verb	Pronominal verb
abîmer 'to damage'	*s'abîmer* 'to undergo a damage'
calmer 'to calm'	*se calmer* 'to become calm'
décourager 'to discourage'	*se décourager* 'to become discouraged'
fatiguer 'to tire'	*se fatiguer* 'to get tired'

2. Semantic transfer; the Concrete Abstract Progression (CAP)

A trend which is very obvious in the evolution of language is the move from concrete to abstract called Kronasser's Law. This semantic transfer occurs often in French between a non-pronominal verb and its pronominal counterpart. The concrete abstract progression almost always goes from the non-pronominal verb to the pronominal verb. It can therefore be said that pronominal verbs are more abstract than their non-pronominal forms. Some examples of this are:

Non-pronominal verb	Pronominal verb
adapter 'to fit, to adjust something'	*s'adapter à* 'to conform'
conduire 'to guide, drive, lead'	*se conduire* 'to behave'
faire 'to do, to make'	*se faire* 'to mature'
figurer 'to appear, figure'	*se figurer* 'to imagine, fancy'

3. Connotations

There exist some pronominal verbs whose problematic difference in meaning when compared to their non-pronominal versions can be best described as a type of extension in the sense that one form of the verb, usually the pronominal one, carries additional meaning in form of connotation which the non-pronominal verb lacks. Thus *se métamorphoser* 'to change completely' carries a connotation of

degree which the verb *métamorphoser* 'to transform' does not express.

Se raccrocher 'to catch on to something' 'to recover one's losses', refers to gambling, while *raccrocher* 'to hook up, hang up' does not connote gambling at all. *Rajeunir* 'to rejuvenate, renovate, revive' does not connote a lack of sincerity which its pronominal counterpart does connote. Its meanings are 'to make oneself look younger than one is' and 'to lie about one's age'. *Se repaître* 'to eat one's fill, to raven on something' carries a connotation of excess which is absent in *repaître* 'to feed'. *Se reproduire* 'to recur, to breed, multiply' contains a sexual connotation which *reproduire* 'to copy, to imitate' does not carry.

It happens that the connotation is present in the active form of the verb, but absent from the pronominal form. Thus, in *marier* a connotation of religion exists when a minister or a priest "marries" a couple. A derogatory connotation appears when *marier* means 'to marry off'. The pronominal verb *se marier* 'to get married' never carries the two connotations which pertain to the verb *marier*.

4. Preverbal pronominal form with a zero meaning

There exist a large number of pronominal verbs in French which traditional grammar has categorized as exclusively pronominal verbs and as non-reflexive accidentally pronominal verbs. (Grévisse, 1961) Other traditional grammarians have called them pronominal verbs with an indistinct meaning. (Bonnard and Rouault, 1952) The difference between exclusively pronominal verbs and non-reflexive accidentally pronominal verbs is that the former never appear in the language without their preverbal adjunct, while the latter all appear as lexemes without being accompanied by a preverbal pronominal form.

For instance, *se méfier de* 'to distrust, beware' is an exclusively pronominal verb. **Méfier* does not exist in the French language as a unitary lexeme. *S'apercevoir de* 'to notice, to realize' is a non-reflexive accidentally pronominal verb, for *apercevoir* 'to see' does appear in the dictionary as a lexeme. Here are examples of these three verbs used in a sentence.

1. *Paul a peur des chiens. Il se méfie de tous les chiens.*
   Paul is afraid of dogs. He distrusts all dogs.

2. *Lorsque Paul a relu ses devoirs, il s'est aperçu de ses erreurs.*
   When Paul reread his homework, he noticed his mistakes.

3. *Quand Paul a aperçu le chien, il a eu peur.*
   When Paul saw the dog, he got scared.

It is interesting to note that in sentence 1, French lexotactics does not allow the translation of *distrusts* by **méfie les chiens*, nor the translation of *noticed* to be **a aperçu ses erreurs*, in

sentence 2. A reflexive structure must be used in both cases. In sentence 3, English lexotactics matches French lexotactics. *A aperçu* is translated by *saw*.

Traditional grammar warns the students that verbs like *se méfier de* and *s'apercevoir de* must be learned as a unit. Grévisse (1961), for instance, remarks that with these verbs and others cited, the adjunct pronoun must be considered *incorporé au verbe et n'a qu'une valeur emphatique, ou affective ou vague*. In other words, the pronouns *me, te, se, nous, vous, se* are sememically depleted. The only semantic value attached to them is of a stylistic order.

Grévisse (1961) goes on to say that the adjunct pronouns in verbs like *se méfier de* and *s'apercevoir de* are a type of inflectional morphemes which must not, in an analysis of them, be distinguished from the verbal form. In modern linguistic terminology, they would be called polymorphemic lexemes, the morphemes in *se méfier de* being:

se 'oneself', *mé-* 'negative', *-fi-* 'trust', *-er* 'infinitive', *de* 'from', 'of'

Se in *se méfier de* can be described as a free morpheme which appears frequently as such throughout the language or under its morphographemic variation *s'* as in the case of *s'apercevoir*. As suggested by Grévisse, it can also be regarded as a bound inflectional morpheme if considered in a reflexive verbal paradigm,

je *me* méfie	nous *nous* méfions
tu *te* méfies	vous *vous* méfiez
il *se* méfies	ils *se* méfient

The *me, te, se, nous, vous, se* of the reflexive verbal paradigm which as Grévisse suggests must not be distinguished from the verbal form.

mé-	is a prefix meaning 'negative, not'
-fi-	is a base meaning 'to be trusting'
-er	is a bound morpheme meaning 'infinitive'
de	is a free morpheme meaning 'of'

S'apercevoir de contains the following string of morphemes:

s' morphographemic variation of *se*, it is used in front of *apercevoir* which starts with a vowel causing the elision of the *e* of *se*.

a- prefix meaning 'toward'

per- prefix meaning 'through'

-cev- a base from Latin *capere* 'to seize'

-oir bound morpheme meaning 'infinitive'

de free morpheme meaning 'of'

Yet, when we consider the meaning of *se méfier de*, we get 'to distrust', 'to beware'. And when we look at the meaning of *s'apercevoir de*, we find 'to realize', 'to notice'. The *se* of *se méfier de* and the *s'* of *s'apercevoir de*, both get a zero lexotactic realization in English and therefore have no sememic value. If we pursue the analysis of the two forms at hand and add up the meanings of all the morphemes which constitute them as polymorphemic lexemes, we see that the meaning is not predictable on the basis of their constituent morphemes. They fit the definition that William J. Sullivan (1980) gives of a morphemic idiom; the example he used is *understand:* "A morphemic idiom", he says, "looks like a word resembling a phrase, but with meaning unpredictably related to its shape."

Describing the process of idiom formation in stratificational terms (*From Idiom to Lexemic Sign*, p. 143) Sullivan says: "Lexemic signs provide the direct input from the lexemic stratum to the morphotactics. Lexemic signs and their morphotactic parallels, morphological words, give evidence of structures that were lexemic or sememic idioms to former generations of English speakers. Consider *understand*. It is formally i.e. morphologically and phonologically indistinguishable from the preposition *under* followed by the verb *stand*. Of course, it is semantically distinct from them both. There is no possibility of describing the meaning of *understand* from the meanings of what appear to be the constituent morphemes. *There are no constituent morphemes* (my italitcs) only an ordered and-relationship, each part of which neutralizes with a lexemic sign which has other direct relationships to meaning."

His figure looks like this:

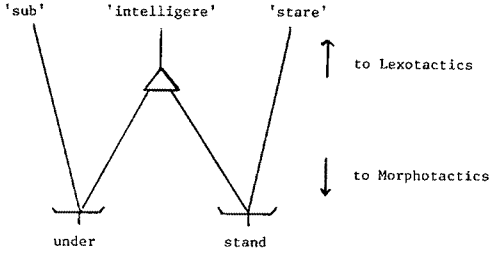

Figure 1

The two verbs we are studying as our examples,. *se méfier de* and *s'apercevoir de* fit Sullivan's definition of a morphemic idiom. Represented in a stratificational relational network they display

the same configuration. A synchronic relational network analysis of *s'apercevoir de* would look as in figure 2.

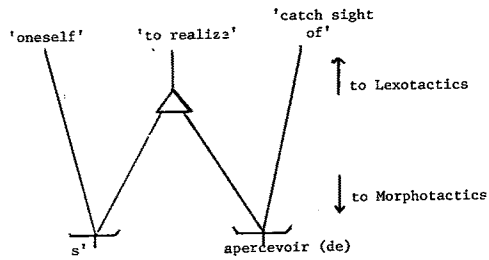

Figure 2

If we add up the meanings of what seems to be the constituent morphemes of *s'apercevoir de*, there is no possibility of deriving from them the meaning of *s'apercevoir de*. It is therefore a morphemic idiom. It does not mean to 'catch sight of oneself'. It means 'to realize'.

And *se méfier de* would display the following relational network configuration:

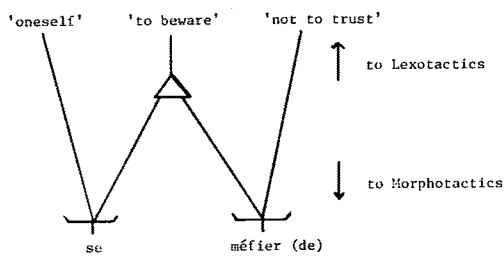

Figure 3

Here again, we have meaning which cannot be predicted from the meanings of what seem to be the constituent morphemes. *Se méfier de* is also a morphemic idiom. It does not mean 'not to be trusting of oneself', but 'to distrust, to beware'.

Se caser is an interesting example of a morphemic idiom with two sememes. It means 'to find a job' and 'to get married'.

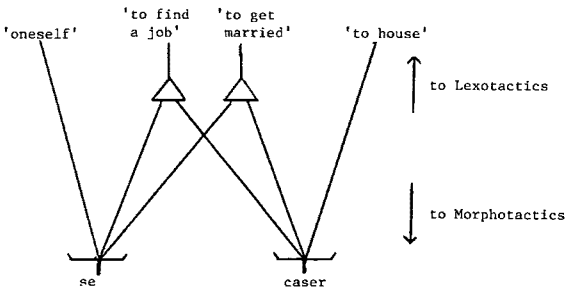

Figure 4

Examples: *Après avoir été sans emploi pendant plusieurs mois, Jean s'est enfin casé.*

Jean a rencontré une jeune fille qu'il aime et il a décidé de se caser.

S'évanouir is also a polysememic morphemic idiom. It means 'to faint' and 'to dissappear'.

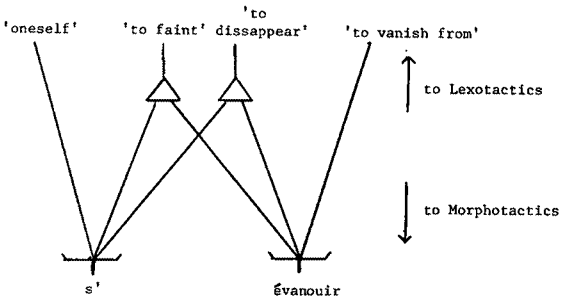

Figure 5

Examples: *Il faisait très chaud pendant le défilé. Jeanne qui était enceinte s'est évanouie.*

Mes illusions se sont évanouies.

The following exclusively pronominal verbs are all morphemic idioms:

Verb	Meaning not...	but meaning...
s'abstenir de	'to hold oneself away from'	'to abstain'
se dédire	'to unsay oneself'	'to say the contrary'
s'enfuir	'to flee from oneself'	'to escape
se méprendre	'to take oneself wrongly'	'to make a mistake'
se souvenir	'to come under oneself'	'to remember'

A certain number of pronominal verbs which are at the same time reflexive, reciprocal and non-reflexive and which also have an active form can also act as morphemic idioms. *Se demander* is a striking example of this. *Demander*, active form, means 'to ask'. Because of the polysemic nature of the "reflexive" pronouns, *se demander* is sometimes reflexive in meaning. For instance, if one says: *Ask yourself if you are doing your best*, the French equivalent must be *Demande-toi si tu fais de ton mieux*. Here the *te* appears under its stressed morphophonemic variation.

When used in the plural, *se demander* has a reciprocal meaning. *Il se demandent de l'argent* is translated *They ask each other for money*. French lexotactics does not allow *They ask each other questions* to be **Il se demandent des questions*. One must say *Ils se posent des questions*.

Se demander also appears as a non-reflexive pronominal verb. *Ils se demandent s'ils vont pouvoir aller en France cet été* is rendered in English by *They wonder if they will be able to go to France this summer*. When the verb *se demander* must be translated by *to wonder* in English, it is a morphemic idiom.

The following are common non-flexive pronominal verbs which are morphemic idioms:

Verb	Meaning not...	but meaning...
Il s'agit	'It acts itself'	'It is a question of'
se déclarer	'to declare oneself'	'to breakout'
se dépenser	'to spend oneself'	'to spare no energy'
se dessaler	'to unsalt oneself'	'to learn a thing or two'
se porter	'to carry oneself'	'to be in good shape'

5. Conclusion

As exemplified in this paper, the translation of French pronominal verbs into English and the reverse are complicated processes. Most of the difficulty stems from the polysememic nature of the reflexive pronouns *me, te, se, nous, vous, se*. Another difficulty of the process comes from the semantic transfer which occurs between the non-pronominal form of the verb and its pronominal counterpart. In the cases studied the semantic transfer has been identified as a concrete abstract progression. Some pronominal verbs are also endowed with a connotation that is not present in their non-pronominal versions.

The pronominal form of the verb is also used in French to carry the notion of the inchoative aspect of an action, as opposed to its durative aspect, which is expressed by the non-pronominal parallel of the verb.

When the pronominal form of the verb and its active form are interchangeable, lexotactically, only stylistic meaning is present in the pronominal form. In these cases, we have two surface structures, but only one deep structure.

Finally, there exist many pronominal verbs for which the meaning of the *me, te, se, nous, vous, se* reflexive pronouns is not readily identifiable, at least in synchrony. In those cases, the verb has a sememe which is not at all predictable. These expressions have a meaning which cannot be decoded through the normal adding operation of what appear to be their pronominal and verbal morphemic constituents. They are morphemic idioms.

Because of the existence of hundreds of morphemic idioms of this type in French, we can conclude that the pronominal voice plays an important role in the idiom forming process of French. This process which possesses a high degree of reinvestability should not be neglected in the teaching of French pronominal verbs to foreign students.

In his article *A Propos des Verbes Pronominaux*, Stéfanini (1971) wrote: "L'étude des verbes pronominaux exige une théorie mieux élaboré des emplois où le pronom joue un rôle spécifique." We hope that this present study of the French pronominal verbs has been a step in that direction.

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A STRATIFICATIONAL APPROACH TO THE VALENCE OF FUNCTION-VERB CONSTRUCTIONS

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1. Introduction

Current work on valence theory tends to view valence as a complex grammatical category that permits at least a twofold interpretation. It distinguishes between syntactic and semantic valence, surface and deep valence, formal and notional valence, or "Ausdrucksvalenz" and "Inhaltsvalenz". Some authors prefer to make an even more delicate differentiation between what they call morpho-syntactic valence and logico-semantic valence. As indicated by the last terms, this grammatical category has also been associated with relational logic and predication structure. Even staunch advocates of a unitary, solely syntax-oriented valence concept generally concede that its definition and description is closely connected with the description of sentence meaning and that the relationship between a logical predicate and its argument(s) represents a kind of valence relation. Thus in principle there seem to be three conceptions of valence: valence as a language-specific morpho-syntactic category, as a language-specific semantic category and as a universal logical phenomenon 1). Syntactic valence does not simply mirror semantic or logical valence, but there are discrepancies between them which justify the distinction. In the literature, especially on valence in German, various such discrepancies have been discussed. They relate to the valence of verbs, adjectives and other valence carriers.

This paper examines valence properties of a specific type of verbal phraseological units 2) which are known as function-verb constructions (FVC). In support of the view that valence is a complex grammatical category, it will be argued that the discrepancies evidenced by FVC reflect the heteromorphism of valence levels. The FVC will be analyzed in the framework of stratificational grammar, a relational approach to language description which up until now has been little concerned with the functional category of valence. Suggestions will be made on how this notion can be accommodated within the stratificational

system.

2. Valence properties of function-verb constructions

FVC are morpho-syntactically defined as word combinations that consist of a small number of "general" verbs and deverbal or deadjectival nouns which either represent direct objects or objects of adverbial prepositional phrases. Since FVC in general are non-idiomatic, they belong to the periphery of phraseology, representing a clearly delimitable subclass of restricted collocations 3). I will limit myself here to those types where the function verb is combined with a prepositional phrase as in be under control, come under control bring sth under control. Such phraseological units involve systematic discrepancies between logical valence and the other two concepts of valence.

Similar to idioms, FVC have internal and external valence properties. Thus in the sentence Peter brought his style to perfection, the FVC bring sth to perfection is internally (syntactically) trivalent: the noun phrases Peter, his style and the adverbial to perfection are syntactic complements of the function verb bring. Externally, the collocation is only bivalent, just like its synthetic equivalent (to) perfect, with only the subject and the direct object representing semantic complements or elaborators, as they more aptly have been dubbed recently (cf. Allerton 1982).

In texts, especially intransitive FVC often show optional complementation, mostly in the form of prepositional phrases: be in control of/over sth, be in fear of sth, remain in circulation among, come under attack from. Also optional sentential complementation is not uncommon: be in agreement that, be in doubt as to whether. Optional external trivalence is exemplified by the transitive bring sth into compliance with and keep sth in balance with sth. The choice of the respective prepositions or conjunctions with the optional constituents indicates that such elaborators are not governed by the function verbs, but by the nominal parts of the FVC, the morphologically derived function nouns.

Worthy of attention also is the relation between the valence of some FVC and the valence of the verbs or adjectives which underlie their function nouns. The bivalent, transitive FVC bring sth into existence, into blossom, into prominence and to perfection have morphological bases that are monovalent; exist and blossom are monovalent verbs and prominent and perfect are monovalent adjectives. In these cases FVC supply a gram-

matical means which allows the speaker to use monovalent predicators in semantically bivalent phraseological units. Conversely, the verbs need and control are obligatorily bivalent, but they can be employed in semantically monovalent FVC such as sb is in need, sb is in control. These do not require further complementation, while the simple verbs do; *sb needs, *sb controls are unacceptable incomplete utterances. In such cases FVC serve a grammatical purpose similar to that of the passive, which permits the speaker to omit an otherwise obligatory agent phrase. It is thus one of the raisons d'être of FVC that some of them provide a grammatical means of decreasing or increasing the valence of verbs and adjectives on the theoretical interface between syntax and lexicology.

FVC are specimens of a linguistic phenomenon that is widespread in presumably all natural languages: the reification of events, states and properties. In FVC abstract notions are interpreted in terms of substances, material objects and containers which have quantifiable spatial extension and local orientation; living creatures, things and abstract entities may be in or under, get into or out of, be put or kept in or out of a spatial relationship to such metaphorically conceived events and properties 4). Various semantic and syntactic arguments can however be advanced for a different analysis of such sentence pairs as The car is in motion - The car is in the garage, Peter brought the task to completion - Peter brought the book to our department and John kept the machine in operation - John kept the machine in the basement. Most notable is the transformational defectiveness of the FVC. Various operations that sentences with non-metaphorical locative phrases can undergo - pronominalization of the prepositional phrase by there, where or it, and with some types, the deletion of the prepositional phrase, the formation of the prepositional passive and the indirect-object movement - cannot be performed on parallel sentences with FVC. Such deficiencies - along with the frequent substitutability of FVC by the simple verbs or adjectives underlying their function nouns - go to confirm the correctness of the view that FVC have a semantic structure which differs from that of parallel non-metaphorical locative constructions 5).

3. A stratificational description of the valence of function-verb constructions

Unlike idiomatic phraseological units, FVC do not correspond to unitary concepts of the content plane. For reasons which will become apparent shortly, it is useful to

lexically decompose them into elementary predications within the semantic stratum. In figure 1 a stratificational analysis is given of the sentence Peter brought his style to perfection. This diagram takes into account new developments in stratificational theory which seem to require some comment.

(a) In two recent publications S. Lamb (1983, 1984) has envisaged the possibility that linguistic structure in general consists of just three stratal systems: the phonological, the lexo-grammatical and the conceptual stratum. I take up this proposal in my description, but prefer the terminology phonemic-phonetic, lexo-morphemic and gnosto-sememic stratum in order to highlight their individual complexity.

(b) The reduction in the number of strata has been made possible by replacing diamond nodes with upward AND-nodes and by allowing realizational lines to enter upward AND-nodes at any point in the tactics so that linguistic structure is conceived as being made up entirely of nections (ibid.).

(c) Within the gnosto-sememic stratum I also employ AND/OR nodes whose use Copeland/Davis (198ob) have recommended mainly for psycholinguistic reasons.

(d) While the lexo-morphotactics continues to be described in terms of constituent structure, a deep dependency format seems to be more adequate for the description of gnosto-semological phenomena. The square node, a notational device that J. Copeland (1983) uses for the description of semantic discourse phenomena, is suitable for this purpose. Placed on an internal line of a conceptual nection and linked to the lexo-morphemic stratum by a line from its right side, a square symbolizes an element of a semantic proposition. Predicates and arguments are conceived as being neutral in terms of word class. But in propositions, semantic elements that function as predicates are shown as controlling those which function as arguments; predicates control their arguments in the relative sense that they in general more specifically determine the number and properties of arguments than arguments restrict the choice of possible predicates. The valence relation between a linguistic (verbal or adjectival) predicator and its elaborators correlates with the controlling relation within a semantic proposition, and the grammatical concept of valence, i.e., the potency of a verb or adjective to take a certain number and kind of elaborators can be reinterpreted as a propositional controlling relation. Those controlling relations which correspond to valence I will call governing relations. In the diagrammatic notation the controlling

relation is represented by placing a square that symbolizes a predicate above those which symbolize its arguments. A predicating square governs and/or controls all those squares which are directly connected to it by downward lines 6).

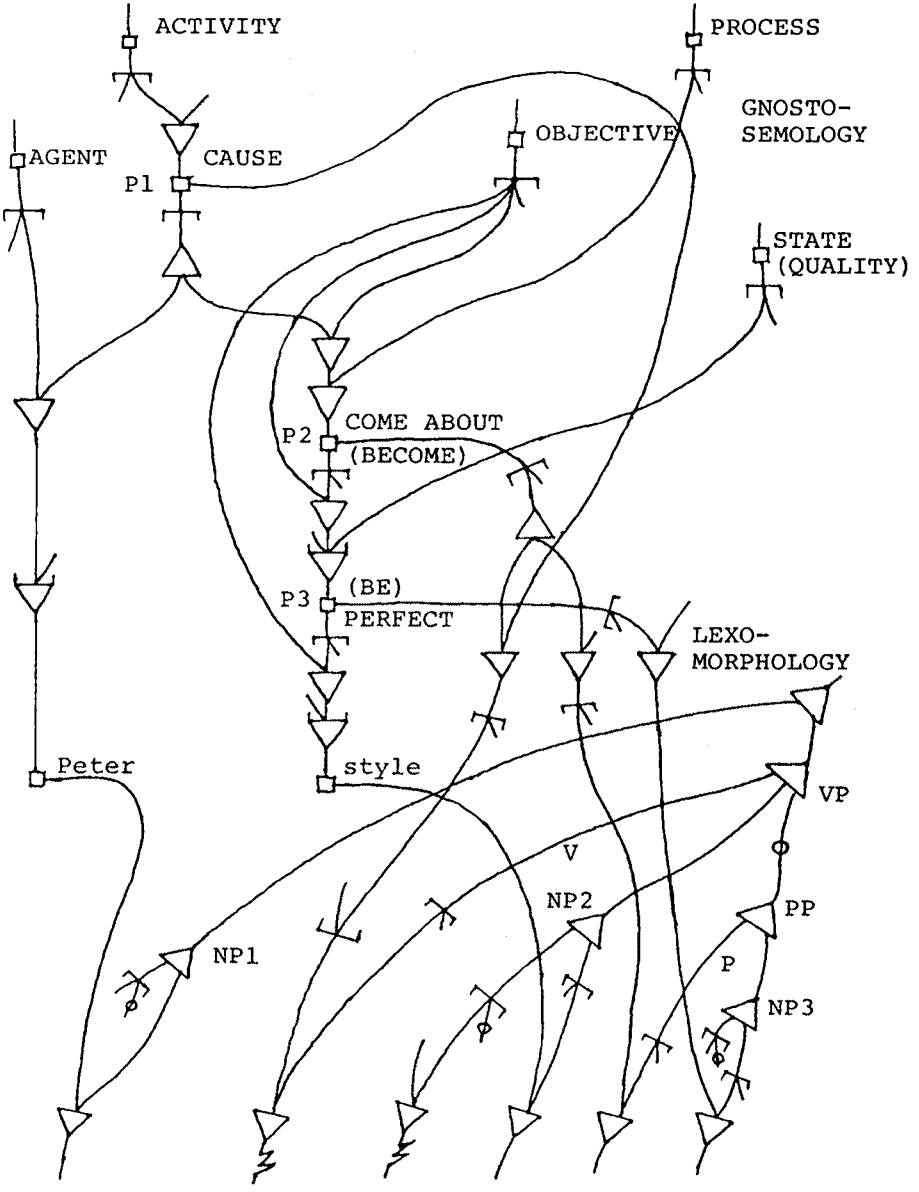

Figure 1

We are now in a position to explain the valence characteristics of the FVC bring sth to perfection in stratificational terms. The sentence Peter brought his style to perfection realizes a complex proposition which reads something like Peter caused it to come about that his style was perfect, i.e., the FVC bring sth to perfection is semantically decomposed into three elementary predications. The atomic predicate CAUSE, which controls the whole proposition, provides two argument slots of which the one is filled by the argument Peter and the other by the inchoative predicate COME ABOUT (BECOME). This predicate controls only one argument position which is occupied by a predication containing (BE) PERFECT as an abstract predicate and (his) style as an argument. Within the lexo-morphemic stratum the complex proposition is realized by a syntactic structure which represents the constituent structure of a simple sentence.

With regard to valence, this sentence differs from the syntactically parallel sentence Peter brought his wife to the party in two important respects. First, the prepositional phrase of the FVC realizes logical predicators and functions as an elaborator only in the internal syntactic valence scheme, thus being only a pseudo-participant in the lexo-morphemic structure of the sentence. The adverbial of the parallel sentence, however, would have to be represented as being a locative elaborator in both the gnosto-sememic and the lexo-morphemic stratum. Second, the verb bring is used as a trivalent syntactic predicator in both sentences, but in the sentence Peter brought his wife to the party, the adverbial elaborator is only an optional complement, for under appropriate contextual conditions it may be omitted; the utterance Peter brought his wife is a syntactically complete sentence. Contextual conditions which allow the sentence Peter brought his style to be recoverably interpreted as Peter perfected his style never seem to be given. In the diagram the obligatoriness of the prepositional phrase - and such obligatoriness seems to hold for all types of prepositional FVC - is implicitly shown by missing zero options for the lines connecting the lexemes to and perfection with their logical realizates. The function verb bring is a portmanteau realization of the atomic predicates CAUSE and COME ABOUT (BECOME). This seems to be an autonomous submeaning of the otherwise locative verb. The verb's connection to its central literal meaning is indicated in the diagram by an upward OR-node above the nection which leads downward to the inflected form brought. The semantically depleted sense of bring as it is actualized

in FVC is a phraseologically bound submeaning of the verb 7).

In addition to the synonymy relation that generally holds between FVC and the simple verbs or adjectives underlying their function nouns, there exist implicational relationships among FVC with identical function nouns. Thus the sentence They brought inflation under control by the end of 1983 implies Inflation came under control by the end of 1983. Both of these imply the sentence Inflation was under control at the end of 1983. Similar implicational relations hold between sentences containing the FVC keep/hold, have and be under control. The proposed gnosto-semological structure of Peter brought his style to perfection is capable of explicating some of these relationships. If we disregard the semantic nuances of modes of events ("Aktionsarten"), it simultaneously seems to be the semantic deep structure of the simple, non-phraseological sentence Peter perfected his style. Moreover, the gnosto-semological structure incorporatesthe deep structure of FVC with come and be. Thus with come to perfection, as in His style came to perfection, the highest predication P 1 is simply missing from the gnosto-semological network, but otherwise the conditions within this stratum are the same; the function verb come would be a simple realization of the atomic predicate COME ABOUT (BECOME), and the same gnosto-semology would represent the semantic deep structure of the linking-verb construction His style became perfect. Finally, the deepest predication P 3 relates bring to perfection to the marginally acceptable FVC be at (its) perfection and the normal copular construction be perfect.

If we additionally provide for the elementary predicate REMAIN (cf. Cook 1976), all types of prepositional FVC will become amenable to an analysis which reveals the systemic relationships obtaining among them and between them and their synthetic equivalents. Componential predication analysis in this case serves a useful descriptive purpose.

The elementary predicates underlying the FVC are either monovalent or bivalent relators (cf. Heger 1976). Since such primary relators are a step farther removed from the expression plane than those semantic predicates which have a regular one-to-one correspondence with verbal lexemes or other surface predicators, they tend toward being universal notional and linguistic categories, and it is justifiable to distinguish their combinative potential as componential or logical valence from semantic valence, which relates to language-specific semantic predicators and can comprise trivalence or even tetravalence.

In summary, we encounter valence discrepancy with FVC on three levels: a transitive FVC such as bring sth to perfection is syntactically (internally) trivalent, but semantically (externally) it is bivalent like its simple counterpart (to) perfect, and it is decomposible into three mono- or bivalent relators which are hierarchically ordered in a semantic dependency relation.

4. Conclusion

On account of its layered structure, stratificational grammar lends itself naturally to the description of multi-level valence and its discrepancies. I have proposed that it adhere to the constituent-structure scheme for the lexo-morphemic description of sentences, but that it analyze their gnosto-sememic structure in terms of semantic dependency relations so that valence-carrying predicators are shown as governing the number and kind of their arguments. While such an approach enables stratificational grammar to describe all valence properties, it prevents it from mixing or equating different aspects of valence; surface aspects of valence are explicated within the lexo-morphemic stratum and logico-semantic aspects in the gnosto-sememic stratum. Simultaneously stratificational grammar can do justice to the complementary nature of the different valence concepts, for both strata are coherently integrated into a single relational network so that the various valence specifications neatly supplement each other. If the proposed relational description of valence should prove adequate to this complex functional category, stratificational grammar would regard valence as being primarily a phenomenon of the content plane.

As far as descriptive sufficiency and model-oriented consistency are concerned, a stratificational approach to valence will be superior to even that of valence grammars. Valence grammars normally adopt the format of dependency theory: verbs and other surface elements are represented as controlling those surface elements which are syntactically dependent on them and all sentence elements are interpreted as depending directly or indirectly on a central verb node. Such a dependency format is certainly more abstract and closer to meaning than the constituency or phrase structure of stratificational grammar, but all dependency relations in valence grammars are nonetheless defined in terms of terminal syntactic categories (cf. Heringer et al. 1980: 119-92, Matthews 1981: 78-84). It has proved to be a clear deficiency in their syntactic descriptions that valence

grammars as such cannot define higher, non-terminal, constituent classes and often fail to explicate the linear order of sentence constituents in a sufficient manner, unless they provide for additional, non-dependency rules. Any valence grammar, even if it incorporates the functional notions of subject and object, must necessarily be supplemented by phrase structure or transformational rules (cf. Herbst et al. 1980: 44-5). By reinterpreting dependency as a semantic phenomenon and adhering to the phrase structure scheme in its syntax, a stratificational description of sentences and their valence structure in these respects easily meets the requirement of the sufficiency criterion without using any process rules.

In valence grammars, a sentence with a FVC would have to be viewed as containing a special kind of "dissociated nucleus" (nucléus dissocié), a technical term that Tesnière (1959: 46-7) employed to designate a similar phenomenon of non-phraseological syntax. A valence description of such a nucleus solely in terms of surface valence is clearly insufficient, but any further semantic characterization or analysis of the complex nucleus itself presents a theoretical impasse to a valence grammar in a Tesnièrean sense. Such a valence grammar is basically a mono-level approach to grammatical description (cf. Tesnière 1959: 44). This forces valence grammar to inadequately assume a direct one-to-one correspondence between syntactic and semantic phenomena and in the case of dissociated nuclei does not theoretically permit it to carry the analysis beyond overt structural characteristics. A stratificational approach to valence can show that such nuclei have an internal and external valence structure with syntactic, semantic and logical valence properties, and is capable of explicating the discrepancies and correspondences between them.

NOTES

1) A multi-level view of valence is most clearly expounded by Stepanowa/Helbig (1978) and Helbig (1982). The articles in Abraham (1978) reflect the diversity of approaches to valence and also to case grammar, with which valence has often been related since the mid-seventies.
2) I use the designation "verbal phraseological unit" as a cover term for all multi-word, but not sentence-equivalent, constructions which have a verb as an essential component and are characterized by idiomaticity and/or stability. On account of this (inclusive) disjunction, my concept of phraseology is more in keeping with that of Soviet linguists (cf. Häusermann 1977) and the authors of recent publications on German phraseology

(Fleischer 1982, Burger et al. 1982, Pilz 1981).
3) Actually, the categories of FVC and idioms overlap, for the same "general" verbs also occur in idioms and often form small idiomatic series: take the plunge, give/ get a kick in the pants, be on the make, put sb in mind of, be in/ come into/ put into force, come/ bring to heel. - The only study of English FVC that takes the concept of valence into account seems to be a contrastive analysis of German and English FVC by Fischer (1978), while in a short, but insightful article Abramov (1978) deals with the valence characteristics of German FVC.
4) On such "minimal metaphorization" in language see Lakoff/Johnson (1980: esp. 25-32).
5) The adverbial phrases of FVC at best could be viewed as arguments in "shadow propositions" which reflect the language-specific reification and spatial interpretation of states and events.
6) Note that I use the term control for a relation within a semantic proposition, while Matthews (1981: 78-84) employs it for surface dependency. With adverbs and attributive adjectives the surface dependency relations are the reverse of the propositional controlling relations; such dependent modifiers would function as predicates, i.e. controllers, in propositions (cf. Matthews 1981: 121-41).
7) The collocational links that bind the constituents of FVC together could be explicated in the diagram by associative lines as proposed by Müller (1981). Such semi-functional lines connect downward AND-nodes above the constituent lexemes and reflect the usage restrictions which are operative in the choice of the function verbs and prepositions.

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AN OVERVIEW OF THE AUXILIARY DO IN THE VERB SYSTEM OF MODERN ENGLISH WITHIN THE FRAMEWORK OF A NEO-STRUCTURAL THEORY OF THE MORPHOLOGICAL UNIT

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In analyzing the status of the English auxiliary DO and the specific problems it raises, I shall be considering the English verb system as a whole and formulating a number of propositions inspired by an original approach to the verb as morphological unit. These propositions may seem surprising at the outset, but will be substantiated as I go along.

They bear essentially on the following points:

1. The English modals *(can, may, must, shall, will)*, although generally classified by grammarians as auxiliary verbs, are not in fact verbs but grammatical morphemes on an equal footing with the tense-, person- and aspect-markers (morphologically speaking).

2. All constituents of the English verb system can be lumped together as a single morphological cluster, and all conjugated verb forms -- from the simple to the most complex -- actualize a simple underlying structural pattern.

3. The existence of the DO-forms and the way in which they function stem from the specificity of a verb system which -- as opposed to the French verb system, for example -- is based on the use of auxiliaries. I shall demonstrate that even the "simple" forms *(I speak, I spoke)* actualize a structure grounded in the use of auxiliaries. This is not a paradox, merely a fact revealed by the analysis of the system as a whole.

My analysis of the specific problem raised by the status of the English auxiliary DO will lead me to discuss a more general theoretical problem, one which is implicitly present at the very root of any grammatical description and whose importance for the study of the verb system as a whole I hope to demonstrate.

The theoretical problem is that of defining the *units* on which to base a grammatical description: specifically, is there a *formal* grammatical unit which is larger than the minimal signifying unit (the morpheme), yet smaller than the phrase or sentence? I shall attempt to show how the answer to this theoretical problem can provide a more economical and, in my opinion, a more elegant approach to the description of DO, making it possible to deal with an apparently unrelated set of phenomena in terms of a limited number of very simple formal rules. Discussion of general theoretical points is of interest, insofar as I am concerned, only to the extent that the solutions provided make it easier to describe specific linguistic phenomena; conversely, the solution of specific linguistic problems provides the only satisfactory grounding for theoretical constructs.

My approach is, I repeat, rooted in a specific way of viewing the combinatory units and their structural interdependencies. I shall therefore be working within the framework of a global analysis of English grammar -- or, more specifically, of the subsystem constituted by the verb. To begin with, it goes without saying that the school to which I belong recognizes the existence of minimal signifying units (morphemes); we accept without reserve all the definitions according to which these units are the constituents of substitution lists. We do not, however, recognize them as combinatory units, i.e. we consider that they function as units paradigmatically, but by no means syntagmatically.

From our perspective, these minimal signifying units are analogous, not to the phoneme, but merely to the distinctive feature. This is the crucial difference between Gagnepain's grammar and all the other structural and related grammars. Our position stems from the observation that the formal solidarity between certain substitution lists is such that any separation is artificial. This solidarity is twofold: not only are the classes inseparable, but they combine in a fixed order.

Jean Gagnepain has suggested that such morphological units be designated as *words*. The terminology is of little importance in itself. What is important is the ease and coherence which an understanding of such units brings to linguistic description, once their central role has been recognized.

This way of conceptualizing clusters of morphemes is perfectly acceptable -- and even natural -- to the linguist dealing with "inflected" languages, who would never dream of treating "words" such as the German *Kinder* or the Latin *rosarum* as anything but an indissociable cluster of lexical unit, case-marker and number-marker; but the same approach seems irrelevant to the linguist dealing with configurations in which morphemes such as articles, prepositions, auxiliary verbs, pronouns and the like precede the lexical morpheme, for he is unconsciously influenced by the traditional grammatical categories, which treat as separate entities those morphemes, or clusters of morphemes, traditionally separated by spaces in writing. Such an attitude is a biased one, however, and a preliminary inventory of the morphological units of the language under consideration can considerably simplify the task of description, as I propose to demonstrate in the case of the English auxiliary DO.

THE COMPONENTS OF THE ENGLISH VERB

Let me first make a brief presentation of the English verb system, using the assumptions just outlined.

It follows from my earlier remarks that what I call a *verb* is not the lexical morpheme itself, or even the lexical morpheme plus suffixes such as the third-person, participial or simple-past morphemes, or even this configuration plus the auxiliaries *be* and *have*. For me, the morphological unit "verb" (the minimal unit of analysis) includes the cluster of morphemes preceding or following the lexical morpheme and involved in the sort of mutually interdependent relationship referred to earlier. It can be

shown through a process of substitution that the morphological unit *verb* includes, in addition to the morphemes just enumerated, the person-markers (personal pronoun subjects) and the auxiliaries constituted by the *modals* and DO. As the reasons for this demarcation will become apparent later on, I shall not stop to justify this definition. For the sake of clarity, I shall introduce a "formula" for the English verb, an abstract model capable of generating all possible declarative configurations, whether simple or complex (this model is conventional in many respects):

Aux.1 Aux.2 Aux.3

V = Pers.Mark. + Mod. + have -en + be -ing + Lex.Morph. + T

Remarks and explanations apropos of the formula:

1. *Pers.Mark.* (= person-marker) represents the personal pronoun subject, which in the third person (and the third person only) is deleted when there is a Noun Subject.

2. *Mod.* represents the modals, whose inclusion in the morphological unit is justified further on. This class does not include forms such as *have to, be able to,* etc.

3. Obviously, the fact that all the auxiliaries (modals, *be, have)* are included in the model does not mean that all are present in every utterance where there is a verb. Forms such as *I was swimming, I swim* have one or no auxiliary. The model merely signifies:

a) that when all auxiliaries are present in a given verb form, they are always present *in the order given;*

b) that auxiliaries 1, 2 and 3 are by no means incompatible with one another (mutually exclusive), but belong to separate substitution lists;

c) most important of all, that when any given auxiliary is missing, *its absence is significant,* i.e. it becomes a zero-degree auxiliary, as we shall see later on.

4. The symbol T (tense) refers solely to the opposition present vs. past, as actualized by a specific set of morphemes. For the sake of simplicity, the model does not take into account the actual position of this morpheme, which varies.

5. The model has been simplified by dropping the suffixed morpheme which distinguishes the third person from the other persons in the present tense. This morpheme will be reintroduced later on.

6. Again for the sake of clarity, the symbols *have -en* and *be -ing* do not take into account the *actual* place of the suffix (after the lexical morpheme or after Aux.3). They merely indicate the interdependency of auxiliary and suffix.

A model limited to the declarative form is insufficient to justify all the propositions previously enunciated. At this stage it should be considered merely as an hypothesis, the validity of which will be demonstrated subsequently. Only the following, well-established points must be accepted at this stage: 1) the order in which the various auxiliaries (and associated forms) appear and 2) the non-interchangeability of the different classes of

auxiliaries, i.e. the fact that the classes *be -ing* and *have -en* differ from one another and from the classes of modals. The remaining points will be demonstrated subsequently and cannot as yet be granted. Our only claim at this stage is that the various verbal configurations can be formalized as follows:

	Pers.Mark.	Aux.1	Aux.2	Aux.3	T
He swims:	3rd sing. masc.	Ø	Ø	Ø	swim + Present
He can swim:	3rd sing. masc.	can	Ø	Ø	swim + Present
He may have been swimming:	3rd sing. masc.	may	have -en	be -ing	swim + Present
He was swimming:	3rd sing. masc.	Ø	Ø	be -ing	swim + Past

etc.

In an analysis restricted to the declarative forms, the importance of the zero-degree is far from obvious. It will be demonstrated later on.

At this point, the systemic approach brings to light some structural phenomena which are derived from an analysis of the verb system as a whole and which, while crucial to an analysis of DO, are neglected in conventional descriptions of the English verb system:

The form without auxiliaries *(John swims)*, far from being the basic form from which are derived all others:

John is swimming.
John can swim.
John has been swimming, etc.

is, quite the contrary, an aberrant form, out of line with a system whose dominant characteristic, by far, whether statistically or structurally speaking, is the presence of auxiliaries. Within the framework of such a system, the simple form emerges as a striking exception: this is a fact worthy of attention, one which makes it necessary to adopt a position opposed to the traditional one.

The "aberrant" status of the simple form may be concealed by the incorrect interpretation according to which the modals constitute a morphological unit autonomous with respect to the lexical morpheme. The problem raised by the modals brings out the need for a pluridimensional approach and the inadequacy of, say, a purely syntactic analysis. A rigorous analysis based on an examination of the morphology is at least as important as a syntactic or semantic approach.

Thus, an exhaustive morphological analysis based on the criterion of functional solidarity referred to earlier reveals that the "modals" of modern English, far from being autonomous morphological units, are *verbal morphemes* as essential to the verbal paradigm as the tense- or person-markers, for example.

The (simplified) formula given earlier for the English verb:

V = Pers.Mark. + Mod. + have -en + be -ing + Lex.Morph. + T

is more than just a way of setting out a syntactic sequence; it is a statement that the *morphological unit verb* is a configuration grouping the sum total of these morphemes. Each of these constituents (including the lexical morpheme) has one or more marked forms as well as one unmarked form:

John (He) may have been swimming.
John has been swimming.
John has swum.
John is swimming.
John can. (Yes, he can.)
John is. (Yes, he is.) etc.

and finally:

John (He) swims.

Basically, the "simple form" is characterized by the Ø modal, i.e. the unmarked form of the "modal auxiliary" morpheme, just as it is characterized by the Ø morpheme of the other auxiliaries.

Insofar as DO is concerned, suffice it to say for the time being that within the following paradigm, where it is used to produce the "emphatic form", it occupies the same slot and exhibits the same properties (plus the person-marker in the present) as the *modals:*

John *can* swim.
John *may* swim.
John *does* swim.

vs.

*John *does* can swim.
*John *can* do swim.

THE INTERROGATIVE AND NEGATIVE FORMS

The fundamental role played by auxiliary morphemes in the English verb becomes even more evident when one considers the interrogative and negative forms, not a single one of which, present or past, is a simple form.

Can he swim?	*He cannot swim.*
Does he swim?	*He does not swim.*
Is he swimming?	*He is not swimming.*
Can he have been swimming?	*He cannot have been swimming.*
**Swims he?*	**He swims not.*

In the face of such evidence, only the most stubborn of prejudices makes it possible to maintain that the interrogative and negative forms, with their auxiliaries, derive from a simple form. Quite the contrary, it is the auxiliarized forms which throw light on the way the "simple form" functions. There is no reason to suppose *a priori* that a linguistic system would have recourse to two distinct mechanisms, depending on the verb and the tense or modalization, in order to mark the opposition between the declarative, negative and interrogative forms.

It is important, then, to determine what exactly constitutes the "negative" and "interrogative" forms of the English verb in general, i.e. to define the characteristics common to these two forms regardless of tense, auxiliary, number of auxiliaries, per-

son, type of subject, and so on.

1. The interrogative form

Like many other linguists, we consider that the interrogative form is obtained by *inverting the subject and certain elements of the verb group*. These elements are:

- the first auxiliary, if there are more than one, or the auxiliary (modal, *be* or *have)*, if there is only one;
- the tense-marker associated with this auxiliary;
- the person-marker, where relevant (except for the modals):

Aux.1	S	Aux.2	Aux.3	Lex.
May	*John (he)*	*have*	*been*	*swimming?*
= (Mod. + T)	+ (S)	+ have -en	+ be -ing	+ Lex.

Has John been swimming?
(have -en + T + Pers.) + (S) + be -ing + Lex.

Was John swimming?
(be -ing + T + Pers.) + (S) + Lex. etc.

The trait common to all the interrogative forms, then, is neither inversion *per se* nor the simple inversion of auxiliary and subject, but rather *the inversion of a group of morphemes* of which the auxiliary is only one element.

2. The negative form

The same simple mechanism is operative in the negative "transformation", which involves *inserting the morpheme* NOT *after the same group of verbal elements:*

(S) + (Aux.1 + T + Pers.) + not + Aux.2 + Aux.3 + Lex.

John may not have been swimming.
John has not been swimming.
John was not swimming.
John has not swum. etc.

Here again, it would be inexact to consider that the only relevant fact is the insertion of the negative morpheme after the first auxiliary. What must be considered is a cluster of associated morphemes: auxiliary, tense-marker, person-marker.

In the light of this observation, we shall now consider a number of points that had previously been set aside for the sake of simplicity. These points concern the tense-marker and the suffixed person-marker (presence or absence of *-s)*.

I. Tense

1. Every English verb actualizes the opposition Present vs. Past. This is true even of the "future" and the "conditional", which are often and incorrectly treated as "tenses" having the same status as the Present or the Past. In point of fact, these forms are modalities, and there is no justification for treating them differently from the other forms containing a modal (any such difference in treatment can be motivated solely by semantic considerations). *Shall* and *will* are interchangeable with *can*,

may, must:

He can swim.
He shall swim.
**He can shall swim.*

This, incidentally, is why the modals are said to have neither a future nor a conditional form.

2. The tense-marker is positioned according to an extremely simple and inviolable rule: it is always carried by the first auxiliary. As additional auxiliaries are added, it moves further to the left:

He is swimming.
He has been swimming.

When there are no auxiliaries, it is carried by the *lexical morpheme.*

II. Person

The person-marker (third person vs. the others), when present, follows exactly the same rule.

THE ECONOMY OF THE ENGLISH VERB SYSTEM

The fact that the verb forms constructed with modals behave exactly like those constructed with *be -ing* and *have -en* proves that the "modals" are part of the *inflection* of the verb, not its syntax. Compare the behaviour of these forms with that of other complex verbal groups such as *He began to swim.*

He began to swim cannot be transformed into:

**Began he to swim?*
**He began not to swim.*

However, it is perfectly compatible with the configuration

He must begin to swim.

and is transformable into

Must he begin to swim?
He must not begin to swim.

as well as

Did he begin to swim?
He did not begin to swim.

All of which proves that the group *he began to swim* breaks down into *two distinct morphological units,* whereas *he must swim* (or *he must begin)* constitutes a single unit.

Thus, the modal auxiliaries function not only as modalizers but also as auxiliaries for the negative and interrogative configurations.

A number of conclusions follow.

First of all, the fact that there is only one tense-marker and only one person-marker for the entire verb group, together with the fact that the position of these markers is determined by the rule given earlier, reinforces our claim that the sequence (Modal Aux. + Aux. have + Aux. be + Lex.Morph.) is not a sequence of several verbs, but rather a single morphological unit, i.e. a cluster of morphemes which are interdependent in every respect.

Another conclusion to be drawn is that the role played by the auxiliary within the verb system is not limited to that of marking mode and aspect. The auxiliary -- not just any specific auxiliary

but the auxiliary *per se* -- functions as a support for the tense- and (except for the modals) person-markers. As such, it plays a vital role in structuring verbal inflection in the negative and interrogative forms (and in other forms as well, including the "emphatic form", which will not be dealt with here for lack of space).

To recapitulate, leaving aside any points not germane to our demonstration:

- Declarative form: (S) + [Aux.1 + T + (Pers.)] + Aux.2 + Aux.3 + Lex.
- Interrogative form: [Aux.1 + T + (Pers.)] + (S) + Aux.2 + Aux.3 + Lex.
- Negative form: (S) + [Aux.1 + T + (Pers.)] + not + Aux.2 + Aux.3 + Lex.

N.B. Obviously, each of these categories has a zero degree.

These general rules governing the functioning and structure of the English verb throw light on two essential aspects of the problem of DO:

1. its status in the negative and interrogative forms;
2. the role it plays in the emphatic form.

One senses intuitively that these are two facets of the same phenomenon; they must, however, be treated separately, and in this paper we shall consider the function of DO in the interrogative and negative forms only. As to the emphatic form, see Pergnier 1980.

Granted that the *unit of analysis* is the underlying configuration rather than any one specific verb form, it follows from our study of the English verb as a general configuration that the simple form, if it is to conform to the overall system, must generate its negative and interrogative forms as follows:

Interrogative: (Aux. Ø + T + Pers.) + (S) + Lex.

Negative: (S) + (Aux. Ø + T + Pers.) + not + Lex.

i.e.

Int.: *John swims* → (Aux. Ø + T + -s) + John + swim?
Neg.: *John swims* → John + (Ø + T + -s) + not + swim.

Aside from the presence of DO, this is effectively what happens, since the form

Does John swim?

is obtained by shifting the tense- *(does/did)* and person- *(-s)* markers to in front of the subject, without modifying the order of the latter relative to the lexical morpheme. From the generative-transformational standpoint, the fact that these two morphemes are actualized phonologically as /dʌz/ is glossed over as being merely a "surface" phenomenon. But this is not an explanation, and a more satisfactory way of dealing with the phenomenon is to point out, in the first place, that the person-marker is never autonomous in English (i.e. distinct from an auxiliary or a lexical morpheme) and, in the second place, that the tense-marker is inevit-

ably incorporated in ("amalgamated with", to use Martinet's terminology) the lexical morpheme or the auxiliary or actualized as a dental consonant at the end of these items. Even aside from the fact that the very phonetics of English precludes sequences such as

/ts/ (or) /st/ *John swim?* ,

for the present tense, what marker could be used in the past tense to actualize the interrogative configuration?

The interrogative form would be identical in most cases with the declarative form. Admittedly,

John swims → *S John swim?* /zdžonswim/

(S) + (Lex. + Ø + Ø + -s) → (Ø + Ø + -s) + (S) + (Lex.)

but

Boys swim → *Boys swim?*

(S) + (Lex. + Ø + Ø + Ø) → (Ø + Ø + Ø) + (S) + (Lex.)

All these considerations -- which are nothing less than the rules structuring the system as a whole -- necessitate the presence of a third grammatical morpheme, which can only be an auxiliary.

But there is another, far more compelling reason for the emergence of DO: systemic pressure. The presence of the auxiliary DO in this slot has the obvious advantage of *filling a gap in the system and of bringing the (no longer) simple form into line with the rest of the system.*

The fact that the linguistic element chosen by the language to perform this function is DO rather than another item is perhaps explainable by theories such as those of Guillaume or of Benveniste. For our purposes, it suffices to say that the use of DO in this capacity drains it of all notional content, reducing it (from the semantic point of view) to a zero-degree modal.

The same analysis would hold for the negative form. The reader can work it out for himself.

To sum up: the presence of the auxiliary DO in the negative and interrogative configurations of the "simple" form is not, as is often thought, an oddity out of line with the rest of the English verb system. Quite the contrary, it bears eloquent testimony to the underlying structural unity of the system. This structural unity is obscured only if, in analyzing the morphology of the system, one fails to pay sufficient attention to the status of the auxiliaries, notably the modals, and to the true mechanisms of interrogation and negation. For the true nature of the system becomes apparent only when one attains a sufficiently high level of abstraction to carry one's analysis beyond the individual constituents of the system.

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ERGATIVITY AND THE PRINCIPLE OF THE FUNCTIONAL SUPERPOSITION

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1. The Problem

One of the most interesting results of recent research in syntactic typology is the claim that most morphologically ergative languages are in fact syntactically accusative.

This claim rests on the observation that in many ergative languages syntactic rules, such as Equi-NP deletion, Subject raising, Conjunction formation, apply to a particular class of NPs: the absolutives in intransitive constructions and the ergatives in transitive ones. A number of linguists (among them, Anderson 1976; Comrie 1978, 1979; Dixon 1979) claim that this is exactly the syntactic class denoted by the term subject in accusative languages, and to fail to recognize it as such is to miss a generalization. Due to this generalization, languages, such as Basque or Tongan, are considered to be morphologically ergative but syntactically accusative languages.

The linguists who claim this must be given credit for unearthing the facts of syntax which call for explanation. No matter whether or not we agree with their argument, we must recognize it and contend with its full force and subtlety.

The purpose of this paper is to argue that morphologically ergative languages are syntactically ergative, as well. In doing so, I will uncover the points of divergence and convergence between the syntactic structures of the ergative and accusative constructions.

While Anderson and some other linguists consider most morphologically ergative language to be syntactically accusative, they make an exception for Dyirbal and a few other morphologically ergative languages which they consider to be also syntactically ergative. My conclusion will be directly opposite. In what follows it will be shown that there is an essential difference between accusative languages, such as English, and ergative languages, such as Basque, while there is an identity of syntactic organization between English and Dyirbal. The difference between Dyirbal and other accusative languages has nothing to do with their syntax but belongs solely in the realm of semantics.

2. The Law of Duality and the Dominance Law

With respect to application of the syntactic rules, such as Equi, Subject Raising, Conjunction formation, ergatives are similar to transitive subjects in accusative languages. But can we generalize from this that in ergative languages the NPs to which these rules apply belong to the class of subjects?

Subject is not a simple concept with a single property. Rather it is a complex concept characterized by a set of properties. The application of the rules in question is not a sufficient criterion for defining the class of subjects. Among other criteria there is at least one that is crucial for characterizing the class of subjects—the Criterion of the Non-Omissibility of Subjects. Subject is an obligatory term of a sentence, it cannot be eliminated from a sentence, while a non-subject can. For example,

(1) a. John paints a landscape.
b. John paints.
c. *Paints a landscape.

The Criterion of the Non-Omissibility of the Subject is so important that some linguists consider it a single essential feature for defining the subject (Martinet, 1975: 219-224). This criterion is high on Keenan's Subject Properties List (Keenan, 1976: 313).

If in an ergative construction ergative is identified with subject and absolutive with direct object, it means that ergative cannot be eliminated from the sentence, while absolutive can. Yet the reverse is true: in an ergative construction ergative can be eliminated, while absolutive cannot. Here is an example from Tongan (Churchward, 1953):

(2) a. Na'e tamate'i 'e Sione 'a Mele
Past kill John (Erg) Mary (Abs)
'John killed Mary'

b. Na'e tamate'i 'a Mele
Literally 'Killed Mary' (Mary was killed)

In English John killed Mary the direct object Mary may be omitted, but the subject John cannot: *Killed Mary is ungrammatical.

In Tongan, as in many other ergative languages, we are faced by a serious difficulty resulting from the following contradiction: if the class of subjects is characterized by the application of Equi and Subject Raising, then ergatives are subjects in transitive constructions and absolutives are subjects in intransitive constructions; but if the class of subjects is characterized by the Criterion of the Non-Omissibility of the Subject, then only absolutives can be subjects in transitive constructions.

Since we cannot dispense with either of these criteria, this creates a contradiction in defining the essential properties of the subjects.

One might question whether we cannot dispense with either criterion. What if we choose to define subject in terms of one and disregard the other? The answer is that no essential criterion can be dispensed with in a theoretically adequate definition because any theoretically adequate definition must include all essential features of the defined concept. We could dispense with one of these criteria only if we considered one of them inessential, that is relating to an accidental feature of subject. But, as is well-known, non-omissibility is a non-accidental, a permanent, an essential feature of subject: subject is non-omissible because it is a syntactically distinguished, a central, a highly privileged term of a sentence in a given language. On the other hand, the behavior of subject with respect to Equi-NP Deletion and Subject Raising is also essential; therefore we cannot dispense with this criterion, either. The two criteria are essential in defining the notion of subject, but at the same time thev contradict one another when the notion of ergative is equated with the notion of subject.

To solve this difficulty we must recognize that ergative and absolutive cannot be defined in terms of subject and object but rather that these are distinct primitive syntactic functions.

If we abstract from the syntactic rules in question and focus on the property of non-omissibility, we discover the following parallelism between the terms of the accusative and the ergative construction:

(3) Subject ⟷ Absolutive
Direct Object ⟷ Ergative

It can be shown that in the syntactic oppositions subject:direct object and absolutive:ergative subject and absolutive are syntactically unmarked terms and direct object and ergative are syntactically marked terms (Shaumyan 1984).

The semantic correspondence between the accusative and the ergative construction is the reverse of the syntactic correspondence. It may be represented by the following diagram:

(4) Unmarked Subject ⟷ Absolutive
Marked Direct Object ⟷ Ergative

This correspondence is characterized by the Law of Duality:

The marked term of an ergative construction corresponds to the unmarked term of an accusative construction, and the

unmarked term of an ergative construction corresponds to the marked term of an accusative construction; and vice versa, the marked term of an accusative construction corresponds to the unmarked term of an ergative construction, and the unmarked term of an accusative construction corresponds to the marked term of an ergative construction.

The property of the non-omissibility of subjects and absolutives is a consequence of the Dominance Law:

The marked term in a sentence cannot exist without the unmarked term but the unmarked term may exist without the marked term.

I will call the unmarked term the primary term and will call the marked term the secondary term. The primary term is the only obligatory term in a sentence. This is an informal characterization of the primary and the secondary term. A rigorous formal definition of these notions is given in the framework of Applicative Universal Grammar (Shaumyan 1981, 1984).

It is to be noted that the Dominance Law makes an empirical claim that must be validated by empirical research. But this law as any other linguistic law is an idealization of linguistic reality in the same sense as physical laws are idealizations of physical reality. Laws and factual statements have different logical status. Just as in physics empirical research discovers empirically explicable deviations from physical laws, so in linguistics empirical research has to discover empirically explicable deviations from linguistic laws. Empirically explicable deviations from a law should not be confused with real counterexamples that undermine the law. Thus, in (1) and (2) I gave some examples of the omissibility and non-omissibility of terms which can be explained by the Dominance Law. But it is easy to find apparent counterexamples to this law. For example, one could produce a sentence like He put his books in order as a counterexample to this law but here we have a semantically explicable deviation from the law rather than a counterexample. If we analyze such sentences, we discover a semantic constraint on the omissibility of direct object: if the meaning of the transitive predicate is incomplete without the meaning of direct object, direct object cannot be omitted. This constraint has nothing to do with the syntactic structure of a sentence; it belongs in the realm of semantics, which gives an independent characterization of the notion 'incomplete meaning'. There may be found other apparent counterexamples to the law which actually are deviations explicable by rules of ellipsis or some other clearly defined constraints.

3. Functional Superposition in Ergative Constructions

Let us now turn to our main problem which in the light of the Dominance Law may be restated as follows: How to resolve the con-

tradiction that ergative, which is the secondary (marked) term of a clause, is treated under the above rules as if it were the primary (unmarked) term of the clause?

In order to resolve this contradiction, we must rely on a principle which I call the Principle of Functional Superposition. This principle states that any syntactic unit has its own characteristic syntactic function, but in addition it can take on the function of any other syntactic unit, so that this function is superposed on the characteristic function. For example, the characteristic syntactic function of an adjective is to be a modifier of a term as in blind people, but an adjective can also take on the syntactic function of a term as in the blind deserve our help. The characteristic function of a noun is to be a term, but a noun can also take on the syntactic function of adjective, that is the syntactic function of a term modifier as in money market.

The important thing to notice is that a syntactic unit that takes on a new syntactic function does not lose its characteristic syntactic function. The characteristic syntactic function and the syntactic function superposed on it constitute a bistratal functional property of the syntactic unit. Thus, in the blind deserve our help, although the adjective blind has taken on the function of a term, it remains an adjective. In money market the noun money has taken the syntactic function of an adjective, and yet it remains a noun.

In Russian the characteristic syntactic function of the instrumental case is to be an adverbial, but in addition it can take on the function of the direct object as in Ivan upravljaet zavodom 'John manages a factory'. This sentence can be passivized: Zavod upravljaetsja Ivanom 'The factory is managed by John' because the instrumental in the active functions as an accusative case. The characteristic syntactic function of the accusative case is to be the direct object, but in addition it can take on the function of an adverbial, as in On rabotal celyj den' 'He worked all day long'.

In this sentence the accusative celyj den' may be replaced by an adverbial of time, such as utrom 'in the morning', etc. Compare On rabotal večerom 'He worked in the evening'. This syntactic behavior of the accusative shows that it functions as an adverbial.

The characteristic function of the Russian dative is the role of an indirect object, but there is a large class of predicates which superpose the function of the subject on it. For example, in

(5) Vidja čto proisxodit, emu stydno za svoego brata
seeing what happens him(Dat) ashamed for Refl. brother
'Seeing what happens, he feels ashamed for his brother'

In (5) the dative emu has its characteristic function of the indirect object, but in addition, the predicate stydno superposes on it the function of the subject, so that emu has got three properties of a subject: 1) it controls Equi into a participle construction vidja čto proisxodit; 2) it serves as an antecedent of the reflexive svoego; 3) it precedes the predicate stydno (although Russian has a free word order, subjects normally precede predicates, while direct and indirect objects follow them).

The Principle of Functional Superposition throws light on our problem. The important thing to notice is that only primary terms may appear in the intransitive clauses. An identification of a term of the transitive clause with the primary term of the intransitive clause involves a superposition of the function of the primary term in the intransitive clause on the function of the given term of the transitive clause. Three possibilities are open: 1) only the primary term of a transitive clause may be identified with the primary term of an intransitive clause (no superposition); 2) only the secondary term of a transitive clause may be identified with the primary term of an intransitive clause (a superposition of the function of the primary term); 3) both the primary and the secondary term of a transitive clause may be identified with the primary term of an intransitive clause (no superposition or the superposition of the function of the primary term of an intransitive clause on the secondary term of the transitive clause).

Accusative languages realize only the first possibility: both intransitive subject and transitive subject are primary terms. But all three possibilities are realized in ergative languages: 1) the syntactic rules in question are stated with reference to only absolutives in intransitive and transitive clauses (Dyirbal); 2) the syntactic rules in question are stated with reference to absolutives in intransitive clauses and ergatives in transitive clauses (Basque); 3) the syntactic rules in question are stated with reference to absolutives in intransitive clauses and to absolutives and ergatives in transitive clauses (Archi, a Daghestan language; Kibrik, 1979: 71-72).

I propose the following definition of the notions 'accusative construction' and 'ergative construction':

1. The accusative construction and ergative construction are two representations of the abstract transitive/intransitive clause pattern: primary term + transitive predicate + secondary term/primary term + intransitive predicate.

2. Primary term is represented by subject in accusative construction and absolutive in ergative construction. Secondary term is represented by direct object in the accusative construction and ergative in the ergative construction.

3. The abstract clause pattern and its representations are characterized by the Dominance Law.

4. There is a mirror-image parallelism between the accusative and ergative construction characterized by the Law of Duality.

5. In accordance with the Principle of Functional Superposition, the primary and secondary terms may exchange their functions, so that the function of the primary term is superposed on the secondary term and the function of the secondary term is superposed on the primary term.

In order to make the rules Equi and Subject Raising valid for accusative and ergative languages, we have to replace them by more abstract rules: Equi-Primary Term Deletion and Primary Term Raising. The generalization expressed by these abstract rules solve the problem raised by Anderson. Contrary to his claim, there are neither subjects nor direct objects in ergative languages: ergative and absolutive are distinct primitive syntactic functions. What ergative and accusative constructions have in common is that they are different realizations of the abstract construction primary term : secondary term. The new abstract rules represent a correct generalization which cannot be captured in terms of the subject and the direct object.

The rules Equi-Primary Term Deletion and Primary Term Raising lay bare a parallelism between the syntactic structure of the ergative construction in Dyirbal and the syntactic structure of the accusative construction but a sharp difference between the syntactic structures of the ergative construction in Basque and similar ergative languages and the accusative construction. Since in Dyirbal the rules in question apply only to absolutives both in intransitive and transitive construction, the only difference between the ergative construction in Dyirbal and an accusative construction, say in English, boils down to a mirror-image semantic interpretation: while primary terms in Dyirbal ergative constructions denote patients and secondary terms, agents, in any accusative construction, quite the reverse, primary terms denote agents and secondary terms, patients.

Here is an example of an ergative construction from Dyirbal (Dixon, 1972):

(6)	yabu	ŋuma+ŋgu	buṛa+n
	mother	father+Agent	see+Past
	primary,	secondary	ergative
	patient	agent	predicate

'Mother was seen by father'

Compare (6) with the English sentence:

(7)	Father	saw mother
	primary,	secondary
	agent	patient

We see the syntactic function of yabu denoting a patient in (6) is a counterpart of the syntactic function of father denoting an agent in (7), while the syntactic function of ŋuma + ŋgu denoting an agent in (6) is a counterpart of the syntactic function of mother denoting a patient in (7).

Now, if we turn to a comparison of Basque and English, we discover a sharp difference between the syntactic structure of accusative and ergative constructions. Consider examples from Basque discussed in Anderson 1976: 12:

(8)	dantzatzaerat	joan	da
	dance-infin-to	go	he-is

'he has gone to dance'

(9)	txakurraren	hiltzera	joan	nintzen
	dog-def-gen	kill-infin-to	go	I was

'I went to kill the dog'

The deleted term from the embedded clause in underlying structure had to be absolutive in (8) and ergative in (9).

In (9) the syntactic structure of the embedded ergative clause is very different from the syntactic structure of the embedded accusative clause in English because the deleted ergative in the former has a syntactic behavior which is sharply distinct from the syntactic behavior of the deleted subject in the latter. While subject is an intrinsically primary term, ergative is an intrinsically secondary term. In (9) ergative functions as a primary term, but the function of the primary term is superposed on the ergative whose characteristic, intrinsic syntactic function is to serve as a secondary term. Since in (9) ergative functions as a primary term, the function of the secondary term is superposed on absolutive whose characteristic function is to serve as a primary term. The important thing to notice is that in transitive clauses similar to (9) neither ergative, nor absolutive lose their characteristic function, and consequently absolutive can never be deleted in these clauses, while ergative can, in accordance with the Dominance Law, which holds that secondary terms presuppose primary terms, while primary terms do not presuppose secondary terms.

To sum up: there is a parallelism and at the same time a sharp difference between the syntactic structures of the ergative and accusative constructions. In order to do justice both to the parallelism and the difference, we have to state our generalizations and rules in terms of abstract notions 'primary term' and

'secondary term'. The rules Equi-Primary Term Deletion and Primary Term Raising capture what ergative and accusative constructions have in common and at the same time reflect the laws and principles characterizing a profound difference between the two types of syntactic constructions.

Thus, we have come to a conclusion which is diametrically opposite to Anderson's view on ergativity. Contrary to his claim that the majority of ergative languages, with the exception of Dyirbal and a few similar languages, have the same syntactic structure as accusative languages, we claim that the syntactic structure of the majority of ergative languages sharply differs from the syntactic structure of accusative languages, with the exception of Dyirbal whose syntactic structure exhibits a parallelism with the syntactic structure of accusative languages.

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RUSSIAN PREPOSITIONAL PHRASES OF LOCUS: LOCATIVE

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0. INTRODUCTION

Russian, like most Indo-European languages, communicates information about spatial and temporal locus by phrases which include prepositions, case endings, or both. At first glance, the set of prepositional phrases involved seems to represent a hopelessly complex interplay of morphemes. Still, pre-school Russian children have an extensive, if not exhaustive, command of these phrases. This suggests that the apparent complexity of these expressions results from a straight-forward and even simple grammatical system.

To date, however, no systematization of Russian locus phrases has been attempted, in spite of the extensive grammatical analysis of Russian carried out by the Russians themselves. Even Jakobson 1958 looks only at the case endings and gives a summary description of their functional interrelations; he does not consider the prepositions. However, the success of Bennett 1976 in describing a subset of English prepositional phrases suggests an approach which is sufficiently general to promise results if applied to the corresponding Russian data. I therefore review the methodology of Bennett 1976, then apply it to Russian data.

0.1 Bennett's work on English David Bennett (1976) describes the spatial and temporal uses of English prepositions. Though no morphological case endings are involved in his English data, the analytical approach he uses does not preclude the inclusion in the data along with the prepositions. This possibility becomes clear in my analysis; it requires no further discussion here.

Bennett's preliminary analysis of spatial and temporal phrases in English is based on an application of three descriptive insights: case frames in the mode of Fillmore and Halliday, Jakobson's *gesamtbedeutung* (the general meaning or function of a morpheme, independent of context)[1], and componential analysis (Bennett 1976:3-11). These three insights were originally independent and have been used as the cornerstones of different descriptive models. However, they are combinable under two assumptions. First, prepositions are not the morphological neutralization of large numbers of atomic semantic elements of meaning, as the multiple listings of dictionaries suggest. Second, prepositions are subject to componential analysis in which they are related to one or more *gesamtbedeutungen* via a semological case frame.

In the process of his description, Bennett adduces a number of *gesamtbedeutungen*. He calls them secondary deep cases or semological roles, a term I prefer. Now these secondary semological

roles differ from the primary semological roles (AGENT, INSTRUMENT, etc.) in at least two ways. Specifically, they may occur more than once in a clause, and they do not occur as clause subject.[2] There are three types of secondary roles: defining roles, directional roles, and geometric roles. The defining roles include LOCUS, PLACE, and TIME; the directional roles include SOURCE, GOAL, and PATH; and the geometric roles include INTERIOR, EXTERIOR, SURFACE, etc. Bennett found this limited set of roles sufficient to define a large inventory of prepositions in English.

0.2 Bennett's procedure In principle, the same procedure Bennett used for English should apply to Russian. Indeed, Bennett's inventory of secondary semological roles suffices for Russian, as is shown below. However, Russian differs from English in a number of important ways. Most obvious is the occurrence of (morphological) case endings on the object of the preposition in addition to the occurrence of the preposition itself. This means that the data are more complex, but at the same time less confusing. That is, there is less need for discussion about the structure of the underlying case frame (cf. Bennett 1976:50-57). Evidence from both preposition and morphological case, when considered together, usually answers all questions about the relevance of different semological roles unambiguously, permitting a unique statement of the *gesamtbedeutungen*.

Another difference between Russian and English concerns the cooccurrence restrictions on the distribution of prepositions and objects. But these restrictions are a significant part of the description. Finally, the inventory of prepositions differs from language to language, and is certainly different in Russian and English. I will have nothing to say about this, as I leave typological considerations to others.

0.3 The present study My approach to the Russian data parallels Bennett's, as remarked above. It is inductive, and I assume that both prepositions and case endings are relevant to the analysis. For present purposes, I consider only prepositional phrases of spatial locus realized by the prepositions *v*, *na*, and *pri* with the locative or prepositional case and by obviously related uses of *v* and *na* with the accusative case. All phrases of temporal locus are ignored, as are other prepositions and cases.

My description provides a componential analysis of each preposition cited and a generalization of the set of prepositions covered. I also provide an algorithm which accounts for the realizations of the prepositions and the cases they govern.

Contrary to my usual practice, no formal description in the stratificational model is presented. However, I conclude the description with a few comments on how such a formalization should be effected in stratificational theory.

I. THE LOCATIVE CASE

I.0 The locative case prepositions Only five prepositions govern the locative case in Russian (P1977:144-46): *o* 'about', *po* 'after', *v* 'in', *na* 'on', and *pri* 'at', to give them their traditional English equivalents. Originally, all five could express spatial and temporal locus. However, *o* is no longer used for locus in Russian (P1977:146), and *po* is used rarely for temporal locus and never for spatial locus (P1977:146-47)[3]. The other three prepositions are primarily used in locus expressions. I therefore concentrate on *v*, *na*, and *pri*, examining their use in terms of the objects they can take and the sense they communicate.

I.1 Preliminary considerations For some Russian words, there is a distinction between two locatives, known as the locative and the second locative (hereafter loc and 2loc). These forms are exemplified in (1) and (2). This distinction in form suggests that

(1) čitat' o snege$_{loc}$ 'read about snow'

(2) kopat' v snegu$_{2loc}$ 'dig in snow'

there is a semantic contrast between locus and non-locus uses of the locative case. Examples (1) and (2) do not constitute proof of such a contrast, but the distinction merits further consideration (see section I.3.1). However, in order to explain the significance of the loc-2loc distinction, it is necessary to describe some of the material concerning the prepositions.

Determining the function or meaning of *v*, *na*, and *pri* within the Russian language requires an examination of their distribution with regard to the types of objects they can take. The prepositions *v* and *na* are generally in complementary distribution. That is, a given object can occur with only one of the two. They sometimes contrast, however, and these examples are especially instructive. Conversely, *pri* seems able to occur with any object at all. I approach the detailed justification of these observations by first studying the use of these prepositions in communicating physical (spatial) locus. I then turn to metaphorical (non-spatial) locus. Finally, I explain the significance of the two locatives.

I.2 The data concerning *v* and *na*

I.2.1 Physical locus A sample of typical locus phrases involving *v* and *na* is given in table 1 on the next page, with examples taken from PZN(1968:115).

A cursory examination of the data in table 1 suggests that there is a geometric dichotomy between nouns which take *v* and nouns which take *na*. Note that places with only an interior and no surface, like *komnata* 'room', can occur only as objects of *v*. Similarly, places with only a surface and no interior, like *ostanovka* '(bus)stop', can occur only as objects of *na*. Of course, places like *stol* 'table, desk', which have both a surface and an accessible interior, can occur as objects of both prepositions.

There are six nouns which seem to be exceptions to this general observation: *stancija* and *vokzal* '(railroad) station', *zavod*

Table 1: *v* and *na* locus phrases

with *v*	gloss	with *na*	gloss
v kolxoze	collective farm	na zavode	factory
v komnate	room	na ploščadi Puškina	Pushkin Square
v magazine	store	na počte	post (office)
v poluostrove	peninsula	na ostrove	island
v peščere	cave	na ostanovke	(bus) stop
v Sibiri	Siberia	na Urale	the Urals
v stepí	steppe	na juge	south
v tylu	the rear	na fronte	the front line
v stole	table, desk	na stole	table, desk
v uglu	corner	na uglu	corner

and *fabrika* 'factory', *počta* 'post (office)', and *kuxnja* 'kitchen'. From the translations, all of these words refer to places with or within buildings. They should therefore occur with *v*. In fact, they occur only with *na*. Their status needs careful consideration.

Four of these words are exceptional only because of their translations. Consider *počta*. Although it is used by extension to refer to the post office, it is really only a place where you can post letters. That is, it need only be a mail slot. The building we call a post office is actually a *počtamt* and it occurs with *v*. Similarly, *vokzal* and *stancija* refer to the place where a train stops to embark or discharge passengers, whether or not there is a building there. These words can therefore be ignored, as they are not exceptional.

Kuxnja 'kitchen' is a relic. Originally, it referred to the hearth, that place within a home where the cookfire was laid. Now, however, it is often a room. All other rooms occur only with *v*, but *kuxnja* does not. Thus its contemporary use seems to be an echo of its history. To be fair, however, the chronic housing shortage in the USSR has contributed to this situation. Many apartments are too small to waste an entire room on a kitchen, so the kitchen is simply an appropriately provisioned portion of another room. In this case, the usage with *na* is appropriate, and it is questionable whether *kuxnja* should be considered an exception. Thus I see no difficulty in ignoring it, too.

With *zavod* and *fabrika*, however, there is no escape. Notwithstanding the history of industry in the USSR, *zavod* and *fabrika* are buildings today and should take *v*. Several more or less ad hoc approaches to the problem could be suggested, but the two words remain exceptional, and there is no neat way of dealing with them. But since they are only two and are nearly synonymous, I ignore them in the general description.

In the absence of other exceptions, I now extend the data to include non-spatial locus.

I.2.2 Metaphorical locus A second sample of locus expressions involving *v* and *na* is given in table 2.

Table 2: *v* and *na* in metaphorical locus

with *v*	gloss	with *na*	gloss
v 9^{om} klasse	ninth grade	na zanjatii	class (subject)
v Rumynii	Rumania	na Ukraine	the Ukraine
v Anglii	England	na Kube	Cuba
v našej strane	our country	na rodine	native land
v tjur'me	jail	na svobode	freedom
v nevole	slavery	na vole	liberty
v snege	snow	na rabote	work
v koncerte	concert	na koncerte	concert

The same dichotomy observable in expressions of physical locus is present in expressions of metaphorical locus. That is, some nouns take *v* and not *na*, some take *na* and not *v*. For example, it is not possible to say *na Anglii* or *v Kube*. Moreover, there are words like *koncert* which occur with both, but with a corresponding change in meaning: *v koncerte* and *na koncerte* both indicate presence at a concert, but the former concerns the musicians and the latter, the spectators.

There are no apparent exceptions in these data.

I.3 Discussion The data in tables 1 and 2 give justification for most of the semological roles suggested in section 0.2. Specifically, there is morphological or lexical evidence for the contrast between physical and metaphorical locus, between surface and interior.

I.3.1 Physical and metaphorical locus It is clear that the nouns in table 1 are actual places, and many, if not all of the nouns in table 2 are not. However, this is not a structural argument. Moreover, it could be argued that the political entities mentioned or *tjur'ma* 'jail' are actual physical places. However, the contrast between concrete and abstract is relevant conceptually in a very general sense, and the contrast between *v snege* and *v snegu* provides a key to the structural proof.

Consider sentences (3) and (4) (Jakobson 1958:148). They dif-

(3) Čego-to iščut v snege.

(4) Čego-to iščut v snegu.

fer only in the ending on *sneg*. Both sentences translate lexically as 'They are seeking something in the snow.' But (3) could be said about literary critics sitting around a table discussing Pushkin's tale *Metel'* (The Blizzard). They would be seeking some kind of symbolism in the snow of the story. Conversely, (4) can only be said of someone who is actually out, digging in real snow, looking for a lost object.

Nor is *sneg* an isolated or exceptional example. At least 50 masculine nouns of the first declension are universally accepted as showing this distinction in standard grammars (Pl977:54-55). Many more appear regularly in colloquial Russian, e.g. the diminutives of the 50 and others besides. Moreover, the same distinction is realized by different forms for certain nouns of the feminine third declension, though here only a difference in accent is noted: *v stépi* (loc) vs. *v stepí* (2loc) 'in the steppe'.

Turning from the distribution of forms to the semantic contrast, there is one further point to be made. Pul'kina (1977:57) points out that *sad* 'orchard' normally takes the second locative: *v sadu*. However, when it appears as the title of a play, as in *Visnëvyj sad* 'The Cherry Orchard', it does not: *v "Visnëvom sade" Čexova* 'in *The Cherry Orchard* by Chekhov'. The *sad* of the play title is not a physical place; it is clearly metaphorical in this usage and does not get the second locative.

Given the regularity of the difference in form and its correspondence to a difference in meaning, we have a structurally justifiable and functionally relevant contrast which must be accounted for in the description. As this is a two-way contrast, it can easily be characterized: physical loci are assigned the semological role +PLACE, metaphorical loci are assigned the role -PLACE.

I.3.2 Geometric features Places which take *v* are generally hollow, like *magazin* 'store' or *komnata* 'room', or they have well-defined de facto boundaries, like *gorod* 'city'. This extends to metaphorical uses with institutions like *universitet* 'university' and political units with well-defined boundaries like *strana* 'country' or *Rumynija* 'Rumania'. Places which are solid and without interior like *ploščad'* '(city) square' or *ostrov* 'island' take *na*. An island and a square have no intrinsic boundaries. Their boundaries are defined by default, so to speak, as a consequence of other places' boundaries. Political entities coterminous with an island take *na*, like *Kuba*, but those smaller than the island take *v*, like *Anglija*. Those things with both a hollow interior and an accessible surface take either *v* or *na*, according to intent, as with *stol* 'desk' and *koncert* 'concert'.

Finally, *Ukraina* 'the Ukraine' takes *na*. Unlike the exceptions mentioned in section I.2.1, the *Ukraina* case reflects both a linguistic and a semantic aberration. As a political institution, *Ukraina* should take *v*. But native speaker intuition is that *Ukraina* is a derivative of *kraj* 'edge, rim' and should therefore take *na*, as *kraj* does. Moreover, the traditional prejudice among Russians is that the Ukrainians are not distinct from the Russians, that Ukrainian is merely a south Russian dialect, and that the Ukraine is simply an outer portion of Russia. Its status as a Soviet Socialist Republic is a transient political fact of no significance to the eternal Russian language. Thus its usage with *na* is consistent with the extra-linguistic prejudice, and *Ukraina* is not a significant exception.

In short, it is possible to assign the distinction between the prepositions *v* and *na* to the distinction between the semological roles INTERIOR and SURFACE.

I.3.3 Means of transport There is a specialized use of *na* + loc exemplified in (5). Though superficially a locus expression,

(5) My prijexali v Tampu na samolëte.

We arrived in Tampa on an airplane.

this type of phrase is anomalous. First, the traveler's locus is physically inside the airplane rather than on its surface. Second, this expression is limited to means of transport. Third, it seems to be in free variation with the instrumental case in (6). This is

(6) My prijexali v Tampu samolëtom.

We arrived in Tampa by airplane.

an important if limited usage and cannot simply be ignored. However, in view of the apparent synonymy between (5) and (6), a full description of the two must await the description of locus expressions involving the instrumental case, which is beyond the scope of this present study. I turn instead to data involving the preposition *pri*.

1.4 Concerning *pri* Apparently any noun in Russian can occur as the object of *pri*. In some cases *pri* contrasts with expressions containing *v* or *na*. In other cases, neither *v* nor *na* would be appropriate.

The facts are easily stated. When used in relation to physical places, *pri* indicates a fixed locus which is neither in nor on the surface of the object (Pl977:144-45). With *ogorod pri dome* 'kitchen garden at the house', the *ogorod* is not in the house and is not on the roof or wall of the house. Thus, neither *v* nor *na* could be used and only *pri* is appropriate. It is also possible to use *pri* to avoid being completely specific, as in (7). Finally,

(7) Moj otec byl pri stancii.

My father was at the station.

there are cases with a contrast between all three: *na lice* 'on the face', *v lice* 'in the face', and *pri lice* 'at/in the face'. Of these, the first means on the skin or surface of the face, the second refers to something that shows on the face, having emerged from within, as an emotion. The third refers to something just in front of the face.

These data show that *pri* differs from *v* and *na* by not referring to either surface or interior. Rather than marking it overtly -SURFACE, -INTERIOR, however, I will leave it unmarked for geometric features. This will account for the first example, which requires *pri* (*pri dome*), for the contrast seen in the last example (*pri lice*), and the non-specificity seen in *pri stancii* in (7).

Now *pri* differs from *v* and *na* in one other way: it does not occur with the 2loc. This can be treated as a consequence of its not having geometric features or as a completely unrelated phenomenon. For our present purposes, it makes no difference. I will simply state that *pri* is negatively marked for place and make no judgement on any relationship with geometric features.

II. A PRELIMINARY COMPONENTIAL ANALYSIS OF LOCATIVE PREPOSITIONS

II.1 The analysis The materials discussed concerning *v*, *na*, and *pri* can be summarized to present a preliminary componential analysis. This analysis is presented in table 3.

Table 3: Componential analysis of locative prepositions

	LOCUS	PLACE	INTERIOR	SURFACE
v	+	±	+	
na	+	±		+
pri	+	-		

II.2 Discussion Because of the limited scope of this study, the description given in table 3 is most limited in extent. For example, all the prepositions listed have the LOCUS feature, because the data were restricted to locus expressions. This may set *v*, *na*, and *pri* apart from certain other expressions, but it does not distinguish between the three of them. They are distinguished by the other roles. First, *pri* is distinguished from *v* and *na* by being marked for -PLACE and by having no mark for geometric roles. Then, *v* and *na* are distinguished by the mark for INTERIOR in the former case and by SURFACE in the latter.

Both *v* and *na* may be marked positively or negatively for PLACE. This mark has nothing to do with distinguishing these prepositions from each other or from any other prepositions. It deals with the difference between loc and 2loc (cf. section VI.2).

III. THE ACCUSATIVE CASE WITH LOCATIVE PREPOSITIONS

As indicated in sections I and II, these prepositions normally occur with the loc or 2loc. There are frequent occurrences of *v* or *na* + acc. I now consider these examples and analyze them to permit a combination of these accusative uses with the locative uses in an integrated description.

III.1 The accusative case with *v* Any noun which can occur with *v* + loc (or 2loc) can also occur with *v* + acc. In most cases, this accusative construction appears in collocation with a verb indicating movement, as in (8) from Pul'kina (1977:159). Metaphorical

(8) Ja idu v školu.

I am going to school.

movement to an abstract locus is also possible, as in (9) from

(9) Ja jedu v otpusk.

I am going on holiday.

Pul'kina (1977:158). Note that there is no acc-2acc distinction paralleling the loc-2loc distinction. The normal and only accusative of the noun object appears in both cases. Thus, the distinction between the occurrence and non-occurrence of the role PLACE is neutralized. These facts are easily accounted for by extending the componential analysis of the locative prepositions given in

table 3 to include a movement component. Since there is a distinction present in the verbs in (8) and (9), this added distinction in the prepositions is at least redundant. However, this distinction is necessary to account for pairs like (10) and (11), and it is a

(10) Ja v universitet$_{(acc)}$.
I (am going to) the university.

(11) A ja v škole$_{(loc)}$.
Well I (am staying) at the school.

distinction which is clearly marked morphologically by the acc-loc contrast. In view of the combination of the structural contrast with the semiotic distinction, an extension of the componential (semological) analysis seems well justified.

III.2 The accusative case with *na* In a fashion nearly parallel with that of *v*, all words which can appear with *na* + loc can appear with *na* + acc, as with the examples in (12) and (13), also from

(12) Ja sižu na stule$_{(loc)}$.
I am sitting on a chair.

(13) Ja sel na stul$_{(acc)}$.
I sat down on a chair.

Pul'kina (1977:159). As with the *v* expressions, the *na* phrases can be used as verbless predicates to produce a minimal pair, where the case alone communicates the difference in meaning. That is, (12) and (13) remain distinct without the verbs. In short, it seems that *na* + acc can be described by adding an occurrence of a movement role to the description in table 3.

There are two differences in distribution between *v* and *na* expressions. Places like cities or countries that normally take *v* can also take *na* in constructions like (14) (Pl977:159). The Rus-

(14) Poezd idët na Moskvu.
The train is bound for Moscow.

sian of (14) indicates that the locus *Moskvu* is treated as a place with a surface rather than an interior. Of course, cities do have a surface in that a political boundary (*granica*) is a line and normally takes *na* in locus expressions. Moreover, the use of *na* for expressing destinations is regular. It is more common in temporal expressions, as in (15) (Pl977:155), but both the structure and the

(15) My vzjali rabotu na vsë leto$_{(acc)}$.
We took work for the whole summer.

function are perfectly parallel in both spatial and temporal senses. Finally, the destination use does not occur with objects like *komnata* 'room', which lack an external surface. Thus this function is consistent with a structural description of *na* + acc that simply adds a movement role to the componential description given in table 3.

IV. A PRELIMINARY COMPONENTIAL ANALYSIS OF RELATED ACCUSATIVE EXPRESSIONS

IV.1 The analysis A preliminary analysis of the accusative expressions related to the locative expressions discussed above is easily adduced, keeping in mind the parallels between the accusative and locative uses. This analysis is presented in table 4.

Table 4: Preliminary componential analysis of accusative expressions

	GOAL	LOCUS	PLACE	INTERIOR	SURFACE
v	+	+	±	+	
na	+	+	±		+

IV.2 Discussion The componential analysis in table 4 is non-controversial, given the data, with one exception: the mark for PLACE. As remarked above, no acc-2acc distinction paralleling the loc-2loc distinction occurs. A similar problem surfaced with the specification of *pri* in table 3. At that time, *pri* was specified for -PLACE. The lack of an acc-2acc distinction suggests that *na* and *v* need to be specified for -PLACE as well. Given a strictly binary (i.e. ±) marking, the parallel between accusative and locative expressions with regard to the semological role PLACE is missing. However, in the absence of a dogma regarding binarity, the dilemma is easily resolved.

First, I abandon the "binary" marking method. Nothing will be marked for -PLACE. This means that something should be marked with a '+' if a role is present. The lack of a '+' indicates the irrelevance or non-occurrence of that role. Second, the fact that PLACE may or may not be marked for *v* and *na* in its locative uses is indicated by square brackets, which signal optional occurrence of the mark. In a given case, the '+' indicates that the role is present; the lack of '+' means that the morpheme is not marked with regard to that sememic role. This reanalysis of *v* and *na* is presented in table 5.

Table 5: A second approximation of the componential analysis for accusative expressions

	GOAL	LOCUS	PLACE	INTERIOR	SURFACE
v	+	+		+	
na	+	+			+

V. COMBINED COMPONENTIAL ANALYSIS

A cursory glance at the componential analysis presented in tables 5 and 3 shows extensive parallels. Converting the analysis in table 3 into the same basis as table 5 (singulary marking of sememic roles), presented as table 6 on the following page, makes the parallels even more obvious. These parallels can be exploited to produce a combined componential analysis, which can then be used as a basis for an integrated description.

Table 6: A second approximation of locative expressions

	LOCUS	PLACE	INTERIOR	SURFACE
v	+	[+]	+	
na	+	[+]		+

V.1 Combined componential analysis The materials in tables 5 and 6 are identical, except for the occurrence of GOAL with *v* and *na* in table 5 and the optional occurrence of PLACE in table 6. Remember that optional occurrence includes non-occurrence. Thus, the analyses of tables 5 and 6 can be combined by making both GOAL and PLACE optional. This is done in table 7.

Table 7: Combined componential analysis

	LOCUS	GOAL	PLACE	INTERIOR	SURFACE
v	+	[+]	[+]	+	
na	+	[+]	[+]		+
pri	+				

N. B. The order of presentation of roles is not significant.

V.2 Discussion All the sememic roles occur in relation to the prepositional phrases, but the semological cooccurrence restrictions are extensive. An examination of these restrictions will permit us to specify fully and explicitly the relationships between the roles. A statement of all these relationships in full will permit an integrated structural description of their potential combinations. This, in turn, will permit the statement of a simple algorithm specifying the occurrence of the prepositions and cases.

The first cooccurrence restriction involves INTERIOR and SURFACE. They cannot occur together. Even objects with both an interior and a surface must have no more than one specified in a particular context. If neither is relevant, the marking may be ignored, but no more than one may be chosen. Second, the occurrence of GOAL or PLACE is dependant upon the occurrence of either INTERIOR or SURFACE. If the expression being produced is marked for neither INTERIOR nor SURFACE, it cannot be marked for GOAL or for PLACE. Finally, the relation between GOAL and PLACE is marked. Only one of the two can be present, which requires an OR relation, but the two are not co-equal partners. The specification of GOAL precludes the specification of PLACE. If GOAL is not present, then it is still possible to decide between specifying and not specifying PLACE.

Considering these restrictions, we may provide a complete description of the combinatorial possibilities, i.e. of the structural relations between the loc-2loc-acc expressions.

VI. THE DESCRIPTION

A complete description of any linguistic phenomenon must consist of a specification of both structural and semiotic (formal-functional) relations. I present below a full statement of the

structural relations (cf. VI.1) and follow it with an algorithm specifying the formal relations (cf. VI.2). I do not specify functional relations above the semotactics. These relations are actually easier to state in the context of a more complete description of the temporal and spatial expressions of the Russian language. Nor do I specify the structure of prepositional phrases in Russian syntax. There is no difficulty here, so it is of only passing interest in this short study. In any case, I complete the description with a discussion of the steps needed to make the description fully specified within a linguistic theory.

VI.1 The structural relations A generalized statement of the semological relations underlying the componential analysis in table 7 and the cooccurrence restrictions discussed in V.2 is given in (16), where LE stands for 'locus expression', '&' stands for

(16) LE//LO & [(IN,SR) & [GO + PL]]

a simple AND relation, the comma stands for a simple OR relation, brackets and parentheses specify groupings, and square brackets indicate optional occurrence. That is, you can get what is inside the brackets or you can get nothing and still satisfy the structural requirements. The '+' indicates a marked OR relation. That is, you get GO OR PL, but if GOAL is possible, you must take it in preference to PLACE.

VI.2 The realizations The formula in (16) permits seven different combinations of sememic roles, each of which uniquely defines a preposition-morphological case pairing. These seven pairings are detailed in (17).

(17)	a.	LO	::	*pri*	+ loc
	b.	LO & IN	::	*v*	+ loc
	c.	LO & IN & GO	::	*v*	+ acc
	d.	LO & IN & PL	::	*v*	+ 2loc
	e.	LO & SR	::	*na*	+ loc
	f.	LO & SR & GO	::	*na*	+ acc
	g.	LO & SR & PL	::	*na*	+ 2loc

However, we can improve on (17) by taking advantage of the fact that the sememic roles have their relationships specified in the semotactics, and the cooccurrence restrictions need not be repeated in the realizations, as they are in (17). We can therefore look at the realizations of the sememic roles separately and specify the realizational relations more simply without sacrificing the information given in (16); in fact, we will exploit it fully. The method I use for the specification of realizational relations herein is a simple algorithm in the form of computer-like instructions with an optional input condition, an obligatory output instruction, and an optional transfer statement. This is given in table 8 on the following page. Note that the occurrence of the role LOCUS is the input condition for the algorithm; LOCUS has no other direct realization.

Table 8: A realizational algorithm

	If Input is	Output	GoTo
1	SR	*na*	4
2	IN	*v*	4
3		*pri*	6
4	GO	acc	end
5	PL	2loc	end
6		loc	end

N. B. If the input condition for any step is not met, simply advance to the next step.

VI.3 Discussion The description given in (16) and table 8 is as much as I intend to present at this time. As remarked above, I have deliberately left out a full specification of the circumstances that correspond to each of the combinations in (17) and the structural description of the prepositional phrase. However, what has been presented is exhaustive within the limits stated.

The next step in the description of these expressions would be to formalize (17) and table 8 in an integrated theory of language. (17) can easily be represented as a small tree in the semotactics with the information in table 8 as semolexemic realizational relations connecting with the syntax of prepositional phrases. (17) and table 8 could be represented in other theoretical frameworks with greater or lesser success. For example, table 8 could easily be translated into a set of transformations, but (17) could not be presented in one place. It would have to be dismembered and scattered throughout the lexicon. In short, I urge you to be suspicious of any theory which cannot handle these data in reasonable, non-ad hoc fashion. The semantic circumstances surrounding these expressions are present in the universe of any inhabitant of this planet, and it would be folly to expect that any language could not communicate information about them. I have only inspected data on locus expressions in Russian, Chinese, and Shona, but the parallels are startling. It is my conviction that this area of research will provide fertile ground for typological studies and for universals. As such, it will provide another test for the adequacy of all linguistic theories with regard to their ability to produce a complete description.

NOTES

[1]Be aware that this is not an underlying meaning from which all other meanings are derived.

[2]Unless you consider *the room is noisy* a transformation of *it's noisy in the room*. Describing such alternants via grammatical transformations causes more problems than it solves, and I will not pursue it any further.

[3]Except in a metaphoric sense in the expression *skučat'/ toskovat' po* 'pine for'.

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THE COPULATIVE HYPERBATON IN MODERN ENGLISH

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A hyperbaton--literally "a stepping over"--is a rhetorical figure in which a transposed word order is used in lieu of the customary one. Stock examples of hyperbata include "echoed the hills" (for "the hills echoed"), Shakespeare's "That whiter skin of hers than snow" (for "That skin of hers, whiter than snow"--or the modern hyphenated "That whiter-than-snow skin of hers"), and "Bird thou never wert" (which at least sounds better than "Thou never wert bird.")

Copulative in this context means pertaining to copulae, i.e. verbs like be that identify or link the complement of a clause with its subject. So the hyperbata that I'm dealing with and dubbing copulative consist of a complement, followed by the verb (usually to be), and then the subject. An example is George Steiner's remark "Mysterious are the ways of publishers." Where the complement is adjectival, like this, or adverbial, the analysis is easy. But a preposed noun-phrase complement is hard to distinguish from a subject.

Nevertheless I think noun-verb-noun hyperbata occur. Of course the verb then HAS to be the copula. With an active verb the hyperbatic order is disallowed: "dog bites person" and "person bites dog" cannot mean the same thing. On the other hand "the most important component is the parallel adder" and "the parallel adder is the most important component" are pretty nearly synomymous even if both are construed as having normal word order.

Sometimes however we get the feeling, from subtle considerations of context and focus, that what comes after the copula is the subject, and that the complement has been preposed for its transitional effect. For example, "An altogether different kind of espionage novel is Nicholas Luard's The Shadow Spy." This opened a paragraph following comments on another spy novel. Or take this example:

> A tremendous item to boost food flavors was homemade hot mustard paste. Equally helpful was freshly grated horseradish.

Here the unarguable instance of an adjectival copulative hyperbaton in the second sentence lends credence to the hyperbatic interpretation of the noun-verb-noun example in the first. Hyperbata often occur cascaded like that.

One last example of the noun-verb-noun type, from Allen Walker Read's "The Criteria for a Class of Jocular Words [Maledicta iv, 1982]:

> A clever type of jocular word was the coinage by a newspaper editor of Vandalia Illinois [of intipsicated, a blend of tipsy and intoxicated]"

I think most would agree that coinage is the subject and that this is a copulative hyperbaton of the N-V-N type, but it seems impossible to prove, and unnecessary to pursue, this point. Let us turn to the adverbial type--though in doing so we may note there can be ambiguity. For instance, Home is a noun, and the subject, in "Home is where the heart is," but it is an adverb and the complement of a copulative hyperbaton in "Home is the hero." (Note that pluralizing gives "Home are the heroes," so there is no doubt about which is the subject.

Adverbial copulative hyperbata are ubiquitous--not only in modern English but in Chaucer:

> Now come I to my tale ageyn
>
> Wery and wet, as beste is in the reyn,
> Comth sely John and with him comth Aleyn.
>
> To bedde went the doghter right anon;
> To bedde gooth Alan and also John.
>
> Doun ran the blody streem up-on his brest
>
> For at an hole in shoon the mone bright.

I should point out that preposed adverbs are very frequent:

> And up he rist and by the wench he crept,
>
> And forth she gooth till she the cradel fond,
>
> And up they goon and down agayn anon.

And the difference between these and the hyperbata is just "up he rose" versus "up rose he," which seems about as significant as "she said" versus "said she" in dialogue ascriptions.

Today the adverbial copulative hyperbaton is still in frequent use on talk shows ("Here's Johnny!" "With us tonight is a truly fascinating person.") and sportscasts:

> On deck is Andre Thornton.
>
> And down to second on the throw home goes Sciocia.
>
> One for three in this ballgame is Sammy.
>
> The ball is hit to deep left center--back goes Griffey.
>
> Still upcoming will be the presentation of the MVP award.

A strained sports example of adjectival (passive-participial) type:

> Actually, speaking of pace, leading in the archery is Darrell Pace. [From the Los Angeles Olympics telecast.]

We come now to the adjectival type of copulative hyperbaton, beginning with some examples from Jane Austen:

> So much for her person;--and not less unpropitious for heroism seemed her mind. [Note the use of litotes here also.]

> Their ... almost too interesting conversation must be broken up for a time; but slight was the penance compared with the happiness which brought it on!

> Everybody wanted to look again at the girl who had been admired the night before by Lord Osborne.
> Many were the eyes, and various the degrees of approbation with which she was examined. [Note the compound hyperbaton with ellipsis of the copula in the second part.]

> Equally unexpected was the meeting on each side.

> ... with the sun's first rays she was determined to peruse it. But many were the tedious hours which must yet intervene.

> Heavily passed the night. [Adverbial]

> Few and trivial were the sentences exchanged while they remained upstairs.

> Scarcely another word was said by either during the time of their remaining together. Short, however, was that time. The carriage was soon announced to be ready ...

> A heroine in a hack post-chaise, is such a blow upon sentiment, as no attempt at grandeur or pathos can withstand. Swiftly therefore shall her post-boy drive through the village, amid the gaze of Sunday groups, and speedy shall be her descent from it.

Jane Austen used more copulative hyperbata in Northanger Abbey --thought to be the earliest in composition of her six major novels--than in any of the others. Her use of them seems to have diminished as her style matured, and she tended to use them mostly at crucial turning points and especially in the closing chapters. Her brother Henry, who published his "Biographical Notice" of her in 1818, a year after her death, was quite addicted to hyperbatizing:

> Short and easy will be the task of the mere biographer.

> Most gratifying to her was the applause which from time to time reached her ears from those who were competent to discriminate.

At its best the adjectival copulative hyperbaton is a possibly useful device to convey emphasis or connection or contrast. In the Steiner example above, "mysterious are the ways of publishers," the construction seems to be used for emphasis--as likewise in this example, which is the lead paragraph in its entirety of the review of a stage production of Meet Me in St. Louis:

> Cute, cute, cute is St. Louis.

The bulk of my citations are examples showing connection--continuation or contrast--with the immediately preceding context:

> Also notable are the Peabody Museum and the Yale art gallery.
>
> But even more harmful to a balanced perspective is ...
>
> Far more heinous was the McCarthyism of the period.
>
> More sympathetic to Dr. Price's last sally ... is ...
>
> In this same vein is the announcement put up on the bulletin board ...

On the other hand, adjectival copulative hyperbata seem to have a special propensity for conveying an impression of orotund pomposity. The less the apparent motive for the transposition, the more this seems to be the case. For example, take the following passages about the controversy over the fossils of Australian aborigines:

> These two states ... contain the discovery sites of nearly all the most important fossils ... In jeopardy are the remains of at least 1,500 individuals.
>
> .....
>
> Implicit in this depiction of the Aborigines in earlier scientific literature was a racist attitude that assumed these people were barely human.

There seems no reason, even in context, not to say "The remains of at least 1,500 individuals are in jeopardy" and "This depiction of the Aborigines in earlier scientific literature implied a racist attitude that assumed these people were barely human." The latter sentence in its cited form shows equally unmotivated passive construction and hyperbatic order--a fruity combination. (Although implicit is distinct from the participle implied, in general the passive and participial predicate adjective intergrade.) Another example is: "Subsumed in the foregoing observations is the consideration that ..." Also:

> Interrelated with the top-tube length are the head and seat angles [of a bicycle].
>
> Considered was whether Tri-Met should be a large aggressive agency serving up to 400,000 riders or a more restrained system serving half that number.

> Featured will be some of New York's most exciting musicians.

Egregiously pompous examples seem to come most often from writers on language, such as literary critics--e.g.:

> Thus, ambiguously concluded is not only the story of a heroine's education but also a lesson for the reader.

> Crucial to their mutual learning ... are facts of sensory experience, physical perceptions.

Some juicy examples also come from lexicographers:

> Directly from Latin comes the verb cancel. [This sounds stuffy even though it is adverbial.]

> Presenting difficulty is the transcription of the s in words like abstain, teamster, instigate ...

But, of course, we cannot ignore the linguists:

> More objectionable than their method of phonemicization was the Trager-Smith practice of accounting for all dialects within the confines of the overall pattern.

> Implicit in any feature system is the prediction that confusions between phonemes differing by one feature are more likely to occur than are confusions between phonemes differing by more than one feature.

> Concealed in the agreement on the existence of sentence stress is an ambivalence about its nature.

> Equally untenable is the related claim that all ideophonic meaning is iconic.

Now, I claim that people don't talk like that (unless deliberately striving for a literary effect) and that the adjectival copulative hyperbaton is almost exclusively a stylistic device--or affectation--of writing. Of course there is no right or wrong about the use of this figure of speech (or, rather, of writing). Like other rhetorical figures it can be used to excess--litotes, for example, quickly annoys when overused. My impression is that the use of the copulative hyperbaton is on the increase and something of a fad, but I have to allow for my having increasingly got in the habit of noticing (and collecting) instances. These days they seem to jump off the page at me--but I find they jump off pages written long ago as well as recently.

I hoped to have time to go into some of the alternatives to this construction -- if one wished to edit or rewrite such constructions to achieve greater idiomaticity, how would one proceed? Apart from arbitrarily imposing S-V-Complement order, which may

play hob with the focus and usually is awkward unless the subject is short, the most generally applicable emendation is to prefix a WH-word (usually what) and an extra copula (e.g. is). Such a change would turn a copulative hyperbaton like "Missing is any account of the ergative" into a so-called pseudo-cleft: "What is missing is any account of the ergative." This preserves the focus and is much more colloquial--perhaps too colloquial for hyperbatophiles.

One can easily see the possibilities: hyperbata could be analyzed as having been "derived" from pseudo-clefts by the omission of WH+is. Then the omission could be tendentiously dubbed deletion, and we could come up with something catchy and mod-sounding like "the WH-is deletion transformation."

It would be negligent to leave this topic without at least mentioning the high frequency of copulative hyperbata in verse. In part this can be explained by their use, like other devices of word-order fudging, to meet metrical constraints or get the rhyme in place. But consider Shakespeare's As You Like It where the Old Duke says:

> Sweet are the uses of adversity,
> Which like the toad, ugly and venomous,
> Wears yet a precious jewel in his head.

And Amiens replies:

> ... Happy is your Grace
> That can translate the stubbornness of fortune
> Into so quiet and so sweet a style.

This is blank verse, so rhyme is not in question, and "The uses of adversity are sweet" would scan just as well but would produce a glaring pronoun-reference solecism. On the other hand, "Your Grace is happy" following the Duke's "I would not change it" would be unmetrical. Both sentences would be flatter and less emphatic.

Gilbert Youmans (Generative Tests for Generative Meter, Lg.59 [1983] p. 68) claims that in "the overwhelming majority of [Shakespeare's] inversions ... their function is at least partly metrical." He offers little evidence in support of this; and, alas, he puts all types of inversion in the same bag. Further, Youmans's judgments of metrical issues are colored by the basic tenets of the Halle-Keyser and Kiparsky theories. Those who reject those theories (tied as they are to the absurd stress-levels system of The Sound Pattern of English) might interpret the same evidence differently. My own impression is that indeed most of Shakespeare's copulative hyperbata, at least, are NOT metrically motivated.

The copulative hyperbaton is not an out-and-out solecism like the dangling participle (which Jane Austen used freely) or, for some of us still, the split infinitive (which she scrupulously eschewed). Nevertheless, blessed are they who remember that sparingly should they employ Quintilian's "verbi transgressionem."

TACTICS, TAXONOMIES AND FUNCTIONS IN METAPHORIC TEXTS

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In a working paper I gave to the ALRWG Spring Colloquium on the nominal group (Asp 1984) I suggested that within communication linguistics, metaphor can be defined in terms of its inherent identificatory relation (for communication linguistics see Gregory 1984b & 1984c: for predicational structures see Gregory 1982/83, assisted by Malcolm). I also suggested that a cline can be recognized between metaphors that are codified in which the identificatory relations are incorporated within the language, and metaphors that are codifiable in which the identifications are made in the gnostology by means of their linguistic realization. The former are potentially dynamic codifications of 'old' knowledge. The latter are essentially, rather than potentially, dynamic instantiations of 'new' knowledge: a way of making connections, or inserting nections, between taxonomically organized phenomena not previously related.

This paper shows how metaphor, as I have defined it, can be described using a combination of the relational-stratificationalist's approach to organizing tactics and taxonomies within the code and the gnostology respectively (eg. Lockwood 1972/83, Lamb 1970) and Halliday's (in Kress 1976, Halliday 1978) formalization of linguistic metafunctions allowing for recognition of three primary linguistic functions systemically codified to correlate non-arbitrarily with extra-linguistic aspects of human inter-action, human experience and the organization of that experience and inter-action within communication.

In relation to the description of metaphor, the reason for, and usefulness of, the co-representation of the stratificational approach to language as knowledge and the systemic functional approach to language as behaviour within the communication linguistics framework will be apparent. That is, metaphoric language emphasizes the ever present dialectic relationship between experience on an instantial situational plane, the collective and individual processing and maintenance of that experience as 'knowledge' in a gnostological interface: and our ability, indivually and collectively, to behave both linguistically and non-linguistically in terms of that knowledge.

The first example I want to consider is; 'the path runs to the shore'. This sentence realizes what I would call a codified metaphor. The path obviously doesn't 'run' in the sense of 'to go steadily by springing steps so that both feet leave the ground for an instant in each step' (Websters 3rd). Rather we would all decode something like 'the path extended to the shore'.

In a synchronic description of English, the multivalence exhibited by 'run' could be represented in stratificational notation as in Figure 1, where it is described simply as an instance of neutralization between morphosyntactic and semological strata.

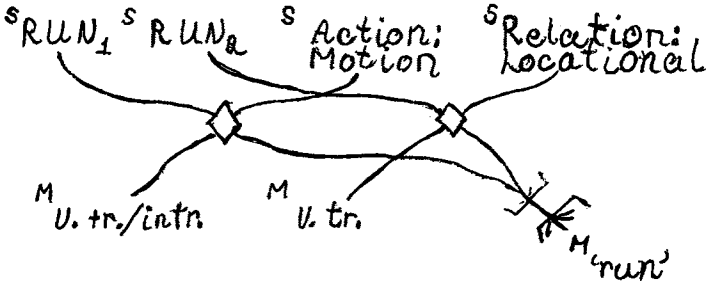

Figure 1

This accounts for the most obvious interstratal discrepancies, including the specification that the action: motion process $^{s}RUN_1$ is optionally transitive on a morphosyntactic stratum, while $^{s}RUN_2$ is obligatorily transitive. [It should be noted that in communication linguistics transitivity is seen as a system whose locus is morphosyntactic clause, and is treated distinctly from inherency of roles in the semology (cf. Halliday in Kress 1976, and see Gregory on sentence and clause 1982).]

The sentence, then, 'the path runs down to the shore' and others like it could be accounted for in a tactic diagram such as that shown in Figure 2. This is a 'shorthand' representation of the class of locative relations exemplified by the concepts $^{s}RUN_2$, ^{s}GO etc. and their semotactically inherent roles. Note that the diagram presupposes unmarked discourse organization in the STATEMENT selection: this being the basis for the morphosyntactic specification of sequence. Selection of the speech function QUESTION, and-or any selection from all the possible options for markedness in textual organization would, of course, alter morphosyntactic sequence.

Figure 2 is also inexplicit about interstratal realizatory relationships. What it does show is the non-optionality of the complement element in the morphosyntactic specifications. That is, one can say 'the path runs to the shore', 'the path runs from the house' etc. and maintain morphosyntactic and semological well-formedness, but not *'the path runs', unless the context is one which allows animate agency for 'the path'.

A comparable account of $^{s}RUN_1$ would provide for inherent roles of agent and locatives of source and-or destination, and would specify optionality in morphosyntactic transitivity.

The kind of representation shown in Figure 2 is useful to the extent that it reveals some of the semotactic and morphotactic specifications for the concept $^{s}RUN_2$ from the point of view of a synchronic description of language as code. However, in doing this it obscures the potential dynamism inherent in 'the path runs to

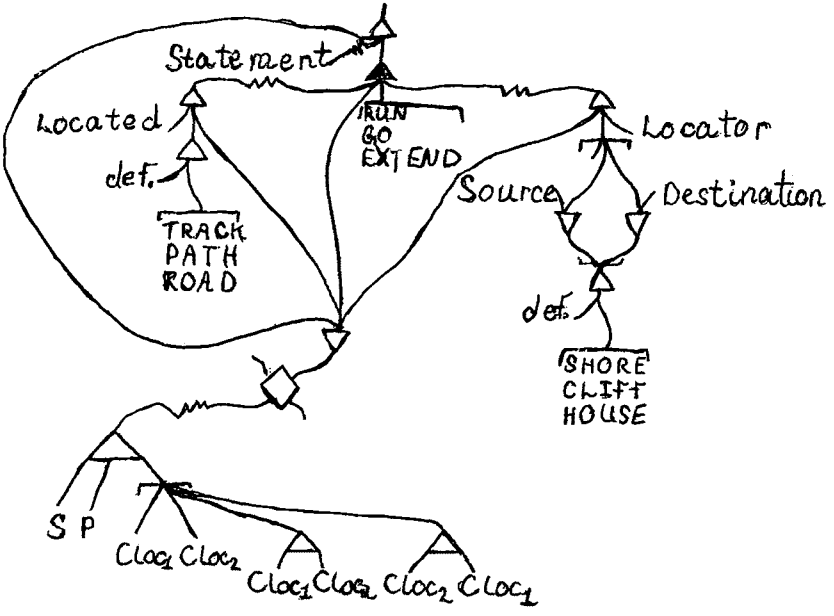

Figure 2

the shore'. To put it another way, the metaphor is ignored if $^{s}RUN_2$ is treated in isolation from $^{s}RUN_1$. In Figure 3 therefore an alternate representation is shown where 'the path runs to the shore' and other metaphoric sentences of its kind are seen in relation to non-metaphoric sentences typified by 'the man runs to the shore'. Here, the item 'run' is implicitly treated as the realization of an action process, and so the morphosyntactic specifications relate to the selection of the sub-classes of animate or inanimate agent, rather than to the class of process. The usefulness of a representation that shifts emphasis from the process to the participants is that the potential for reactivation of the metaphor is preserved in as much as attention is given not to a single concept, or class of concepts, but to the predications in which such concepts occur and to the clauses that realize them. This is important in the analysis of metaphor because predication, realized by morphosyntactic clause or group, is the minimum realizatory locus for metaphor. There's no such thing as a metaphoric 'word', only metaphoric discourse.

Descriptions of how codified metaphors work (ie. how they are encoded and decoded) can, obviously, be conducted in terms of the synoptic code. Explanations of why they work and why we use them must refer to the collective experience of the speech community in the gnostological interface, and to the organization of that experience in terms of specific linguistic metafunctions. To do this it is necessary to consider the concepts involved. For instance, experientially, a $^{g}PATH$ is an inanimate thing involving two of a possible three spatial dimensions, one of which, width, is speci-

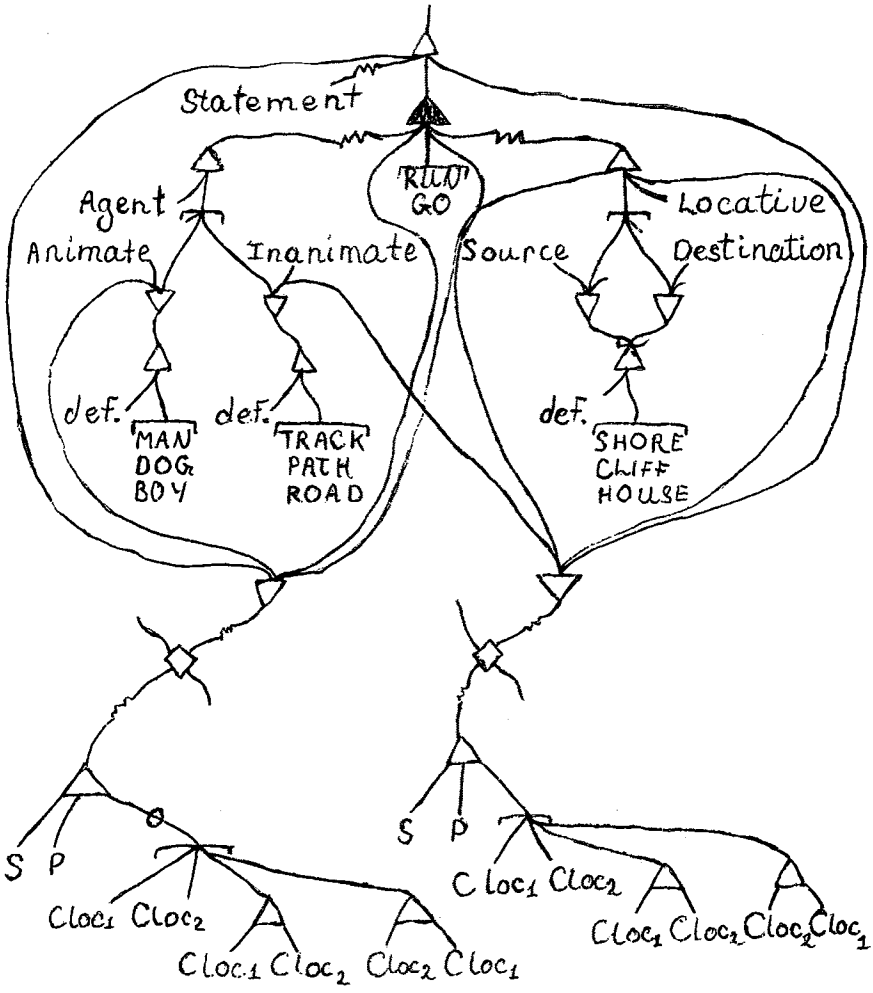

Figure 3

fically differentiated within the code; a ^{s}PATH is 'narrow', a ^{s}ROAD, 'wide'. ^{g}PATHS also involve 'extension'; their length can be specified. This is a feature they share with ^{g}ROADS etc. Another shared feature is that they are 'made' by someone or something. ^{g}PATHS specifically are made by men or animals on foot. This feature, call it 'prior agency', is the most relevant in terms of the metaphor; for a ^{g}PATH is ultimately no more than the substantive evidence of an agent(s) having travelled on foot from somewhere and to somewhere. That is, it represents a substantive relation between time, space and the action: motion processes of agents. Since action: motion processes presuppose both animate

agents and locatives, it is easy to see how the concepts RUN, PATH, AGENCY and SPATIAL LOCATION are gnostologically related. Figure 4 is a tentative representation of this relation.

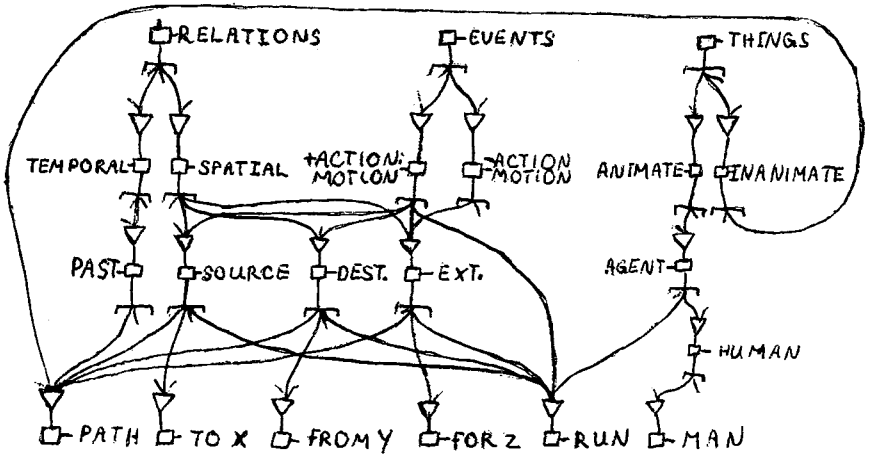

Figure 4

To the extent that this representation is accurate, it reveals what is ultimately expressed in terms of the ideational function in the linguistic code as roles and process types in predicational structure. However, it doesn't explain why PATHS can be 'followed', can 'lead', 'run' and 'go', but not 'walk' or 'hop': nor why we wouldn't usually burst into fits of laughter if someone said, in telling a story, 'the path ran down to the shore and the woman followed it'. For this it is necessary to return to the initial description of the item 'run' as an instance of neutralization between the morphosyntactic and semological strata, and consider it in the light of Gregory's development (1984b) of Halliday's textual function (1978 and in Kress 1976) as a message organizing construct that can be talked about in terms of focus (message starting point) and prominence (message highlight).

Simply, the morphosyntactic item 'run', when collocated with 'path' or other similar items, can be regarded as realizing a focal concept with a prominent component EXTENSION. Unless the discourse is one which involves humour, or is an instance of bad poetry, this is what we decode. The textual function enables the neutralization. And the neutralization is itself possible because there is partial experiential congruity between the concepts RUN, PATH, AGENCY and SPATIAL LOCATION.

I have suggested ways in which codified metaphors can be described in terms of the gnostological interface, the code, and the functions that relate them. A brief comparison with an example of a codifiable metaphor will help to clarify this set of relations. The example occurs in the first propsition in Dylan Thomas' poem 'Vision and Prayer'. It's 'Who / Are you / Who is born / In the next room / So loud to my own / That I can hear the womb /

opening....' Here, I will only consider 'in the next room so loud to my own'.

I call this type of phenomenon a codifiable rather than a codfied metaphor for the obvious reason that no amount of inventiveness will enable linguists to set up either systems or tactics which provide an adequate account of the metaphor, without simultaneously providing a distorted account of the language as a whole. Nevertheless, we can say 'in the next room so loud to my own' in English and most English speakers will understand what is meant. Why?

There are some good experiential reasons. LOUD belongs to a class of concepts that, within the code, realize attributes. Gnostologically, LOUDNESS is a property of SOUND, just as NEARNESS is a property of the generalized concept SPACE. In this particular instance, 'near' could, in fact, be substituted for 'loud' resulting in a non-metaphoric realization of the same concept, PROXIMITY. But this is not a usual, or even likely, case in English. One would not, for instance, normally substitute 'near' for 'loud' in a sentence such as 'X talks so loud', because if 'X talks so near' she may still do so in a whisper. NEARNESS doesn't mean you're LOUD, but LOUDNESS does mean you're relatively NEAR. The concepts NEAR and LOUD are obviously related, but not symetrically so.

Without necessarily knowing the specifics of acoustic physics, we all know that 1) sound takes time to travel through space, 2) intensity decreases with distance and so 3) sounds are more or less loud according to the NEARNESS or FARNESS of their point of origin. Figure 5 is a representation of this set of relations.

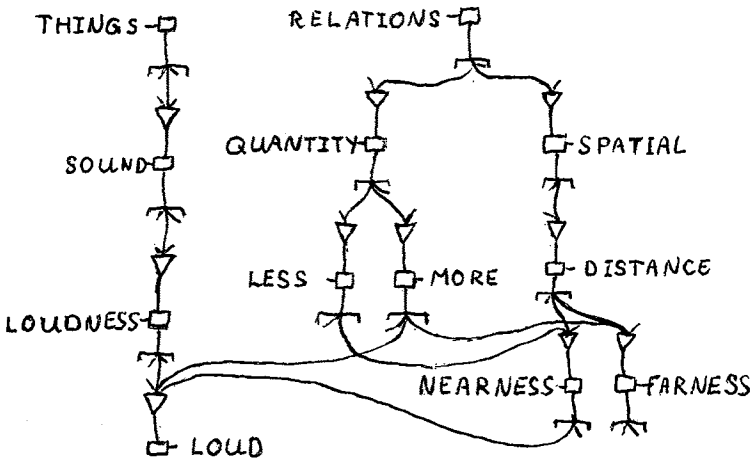

Figure 5

This 'knowledge' would usually be realized codally by means of the ideational function in the semology. However, in the case of 'the next room so loud to my own', the textual function also

has to be considered in terms of focus and prominence. 'Loud' here realizes what I have called a 'message concept' (Asp 19840). That is, the prominent component NEAR is recoverable from the focal concept LOUD in that in the cotext of 'the next room so _____ to my own', 'near' would be a more typical realization of the concept PROXIMITY because gnostologically LOUDNESS is relative to PROXIMITY/NEARNESS. This is why 'in the next room so loud to my own' can be decoded; the prominent component, NEAR, can be recovered/identified from our knowledge of LOUDNESS.

But why use 'loud' if 'near' is the more transparent realization? My own answer to this is that the concept LOUD is, in this instance, experientially more explicit. 'LOUD' sounds impinge upon sensory perception; they are substantive evidence of NEARNESS. Because NEARNESS itself is a relation rather than a thing, it doesn't necessarily imply involvment of the senses. This metaphor is, quite plainly, dynamic, and so best described in terms of discourse in relation to the code and the gnostology.

Considering the descriptions provided here, it might seem that I have refuted a principal part of my own thesis (ie. that there are linguistic phenomena that can be described as codified and codifiable metaphors. However, this isn't really the case. Rather, it should be said that from a synoptic perspective on language as code, codified metaphors are not metaphors at all, only instances of interstratal discrepancies; while from the same perspective codifiable metaphors are just nonsense. Metaphor seems to disappear in the analysis. But from a dynamic perspective on discourse as the activation of code realizing message in situation, metaphor is a quite necessary construct. Codified metaphors are those which involve the identification of a morphosyntactic item with more than one semological concept, component, or function; codifiable metaphors involve the gnostological interface and the code in such identifications. To put it another way, in the analysis of codified metaphors, and most other linguistic behaviour, our gnostology forms the interface between instantiated message and code, while in the analysis of codifiable metaphors, the code, particularly the textual function when viewed as an enabling function, operates as the interface between our knowledge of experience and the instantiated message.

To conclude, in communication linguistics we have not yet achieved a total synthesis of stratificational and systemic-functional insights on the 'language as knowledge', 'language as behaviour' psuedo- dichotomy. However, I do believe this synthesis is not only possible but necessary if linguists are to account for 'real' linguistic phenomena which nevertheless escape codification. The co-representation attempted here is, hopefully, a step towards that goal.

Endnote

The use of relational-stratificational notation is exploratory than orthodox. I have borrowed freely, rather than slavishly, from the notation of Copeland (1982), Davis and Copeland (1980), Lamb

(1970, 1971) and Lockwood (1972/83). I hope that I will be allowed the same liberality in use of the meta-language of linguistics, as I might expect for the language: rightness or wrongness being determined by the extent to which my usage correlates with my descriptive goals.

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ON THE COGNITIVE STATUS OF THE INITIAL AND NODE IN POTENTIAL AND IN NONCE DISCOURSE

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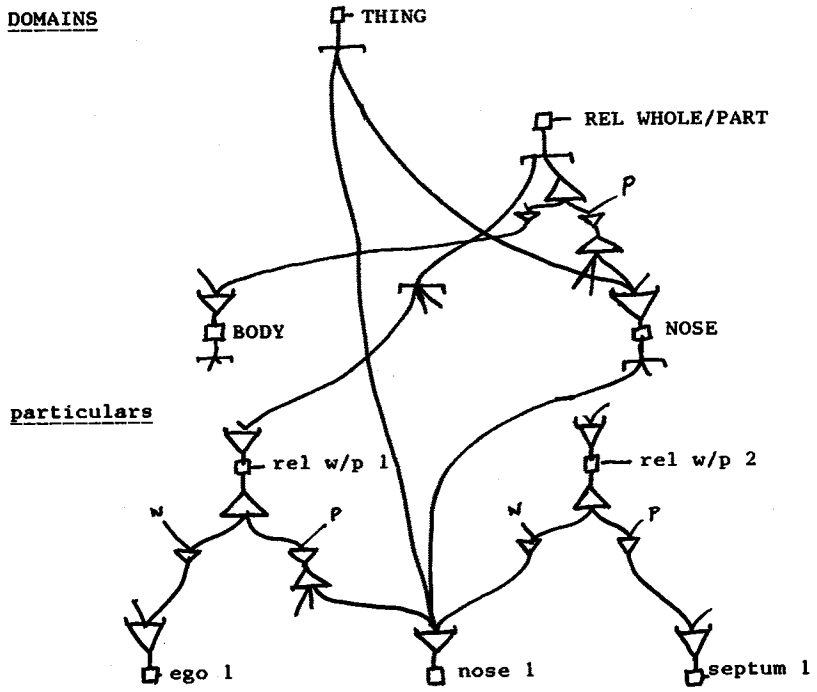
0. Introduction. The study of spoken communication has increasingly come to focus on the processes involved in the codal transfer of ideational and interpersonal information from speaker to hearer(s). These concerns have led to attempts in cognitive psychology, and more recently in cognitive linguistics, to model linguistic process [1]. The basis for such a functional linguistic study includes a number of interrelated facts and working assumptions. I will mention some of them as background, although it will not be my intention to go into each of them here in detail: first, that in decoding a message the hearer employs linguistic codes stored in his mental machinery in order to construct the cognitive networks that capture the gist of what the speaker has said (cf. Sanford and Garrod 1981); second, that the application of such cognitive machinery requires control of both a static linguistic code and a dynamic linguistic code, i.e., a use code according to which information is explicitly added, activated, reactivated, and predicationally related. (cf. Copeland and Davis 1980; Copeland 1983); third, that linguistic discourse is by its nature fragmentary, and therefore the hearer's construal of a linguistic message typically produces activation of more knowledge than was actually contained in the linguistic text itself (cf. Fillmore 1984); fourth, that memory of a nonce discourse is imperfect resulting in the storage of less knowledge that the linguistic text contained, and fifth, that the speaker participates in the construction of a discourse, with the hearer's role as construer prominently in mind.

In order to identify some of the complexities associated with the speaker's role in a conversation we might ask, what specifically is it about the hearer's cognitive system that the speaker must keep in mind in constructing a cohesive discourse [2]? Evidence from language indicates that the speaker must make assumptions about the hearer's current states of knowledge (cf. Copeland and Davis 1983). Here it is necessary first of all to distinguish between types of knowledge and states of knowledge.

1. Types of knowledge. Relational network models of conceptual structure have required the distinction between general 'knowledge of the world' and 'nonce-particular knowledge', a distinction referred to at times in cognitive psychology as general as against factual knowledge (cf. Engelkamp and Zimmer 1983) [3]. A closely related distinction is that between conceptual domains and conceptual particulars. Conceptual particulars are concepts that have intensional properties (hypernymic relations), but no extensions (hyponyms). With the exception of strictly cognitive, imaginary concepts like 'unicorn', a particular has specific reference to an entity, an event, or a relation in the 'outside world'[4]. Conceptual domains on the other hand have both intensional properties and extensional connections either to subdomains or to particulars. Thus, for example, a hyponymic hierarchy of cognitive domains culminates at the bottom in a set of cognitive particulars, as is reflected in the relational diagram in Figure 1. The network represents a partial conceptual representation of the expression 'my nose', etc. Domains are in upper case and Particulars in lower case with subscripts.



'my nose'

Figure 1.

In addition to positing a taxonomic hierarchy of hyponymic relations for domains and particulars, it is further necessary to distinguish between domain and particular knowledge representations of all other types of propositional relations as well, e.g., event/role, whole/part, part/part, kinship, etc., as specific instances of their respective domain types, cf. Figures 1 and 2. Figure 2 shows a partial cognitive representation of, for example, such syntactic expressions as, 'Kay's operation', 'Kay is having an operation', or 'Kay is going to be operated on'.

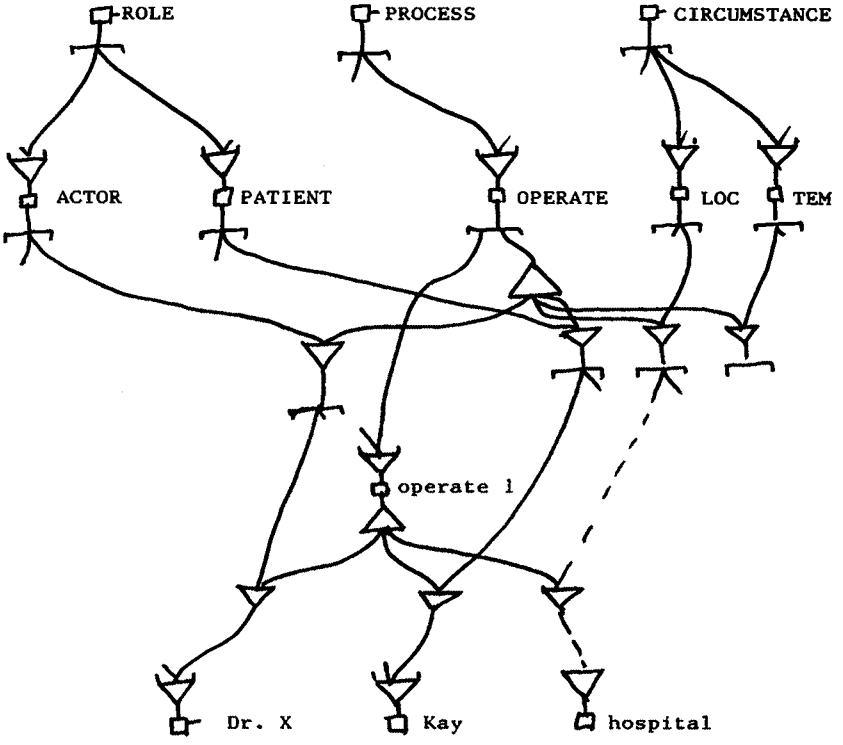


Figure 2.

'Kay's operation'
'Kay is having an operation'
'Kay is being operated on'

2. States of knowledge. In the construction of a discourse the speaker may assume from his own experience that, first of all, knowledge is either present or not present in the hearer's memory. If it is present in the memory store it may be either activated or not activated at a given moment. If the knowledge is not activated, it may be in a deactivated state, meaning that it was previously but no longer activated within the specific discourse context, or it may be as yet unactivated [5]. These states are defined over networks of knowledge types, yielding a taxonomy of knowledge of the sort shown in the system diagram in Figure 3. Evidence for these knowledge states is found in the speaker's syntactic behavior in discourse contexts and involves choices of word order, determiner type, use of pro-forms, elipsis, etc., cf. (Copeland and Davis 1983).

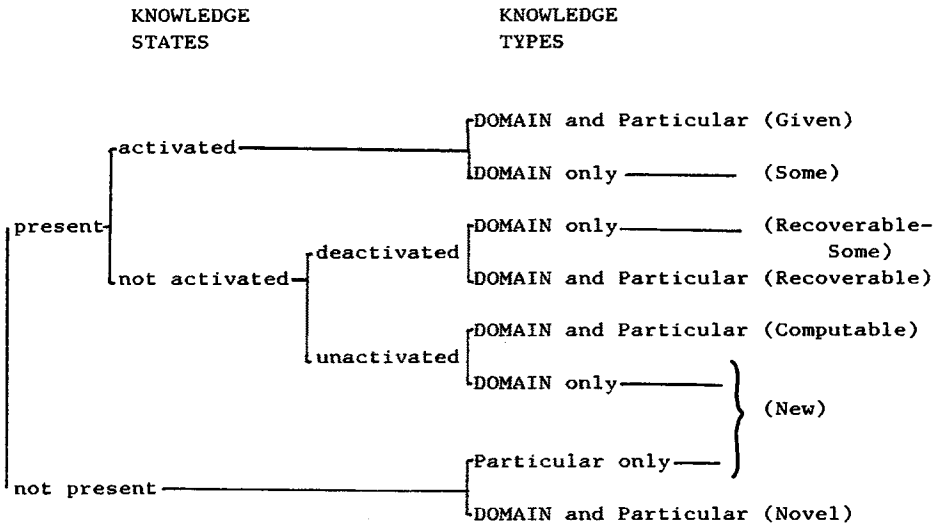


Figure 3.

There already exists an extensive bibliography of research on the topic of the activation states of knowledge (cf. Anderson 1983). Activation may be by mention or by other perceptual or cognitive modalities (cf. Chafe 1976). It is of short duration in the absence of maintainance. It may spread along a network from its epicenter (cf. Neely 1977; Warren 1977; Ratcliff and Mckoon 1981), and it may vary in strength and frequency of occurrence. The role of activation in establishing and maintaining relevance in language processing is the focus of intense

study at the present time, in cognitive psychology and in artificial intelligence, as well as in linguistics (cf. Dell and Reich 1980).

3. Discourse genre and nonce discourse. Now I would like to turn to the specific question as to the cognitive status of genres of spoken discourse. This question is of course not at all an easy one, and the answers will best be sought from a confluence of linguistic and cognitive psychological research methodologies and strategies. The question must be considered in relation to the general typology of knowledge referred to above. Relevant questions are: (1) What is the nature of the general knowledge that enables us as speaker/hearers to construct objects that might be termed cohesive texts of specific genres, more specifically, (2) what is the nature of the memory representation of a nonce discourse during its construction as a cognitive object; and (3) how do we describe our knowledge of how to build a discourse?

In most current practice the linguist's procedures for studying a spoken text are different from the process of construing the text by the actual participants in a discourse. Linguists are able to store a text on video and audio tape, transcribe it verbatim, parse it for its syntactic and semological structure, treating it all the while as a holistic entity, a finished product. From a hearer's point of view the situation is quite different. He must receive the text sequentially, utterance by utterance, by means of a rapidly decaying speech signal. Each utterance encountered is related in some way to what is going on at the present moment and to what has gone on previously. But the hearer does not construct a complete and accurate memory representation of what has occurred before in the discourse, (cf.Bartlett 1932; Cofer 1941, 1973; Thorndyke 1975, 1977). What he apparently does construct is a memory representation of the ongoing verbal exchange in the form of gist. And it is this representation that the speaker must monitor with respect to knowledge types and states in the process of constructing a discourse.

The speaker indicates to the hearer by means of features of surface syntax whether the concepts being referred to are unknown, activated, deactivated, or unactivated. In this way cohesion is maintained from moment to moment, so that the incoming parts fit into the matrix of what has gone before. From a cognitive point of view what has gone before may include reference to concepts that have been introduced verbally, or nonverbally, or to concepts that have only been implied [6]. Results of Kintsch's research on memory (1974) tend to show that inferences made during comprehension are to some extent incorporated into the memory representation of the text along with the more explicit textual material. But the most important observation here is that text is stored as gist, and that it is gist that thus furnishes the context for the speaker/hearer's mapping of subsequent reference onto his representation of the ongoing

discourse.

Cognitive psychologists have shown increased interest in formulating gist hypotheses in order to attempt to account specifically for incompleteness and errors in recall and in summary protocols (cf. Bransford et. al. 1972; van Dijk 1975; Kintsch and van Dijk 1977; Garnham 1979). Recall of written stories typically does not consist simply of random samples of the original text, but rather tends to capture only the gist of the text, leaving out much of the specific detail. The essential features of gist production are not yet well established, and there are a number of problems associated with the definition of gist (cf.Sanford and Garrod 1981). The relation between gist, as defined by content of story recall and summary protocols, and gist defined as an actively changing memory representation of an ongoing spoken discourse, is by no means clear. In this connection it should be pointed out that in spoken discourse the speaker is not forced to rely exclusively on the hearer's ability to recall or to summarize the discourse. He can and typically does adopt linguistic strategies that rely for their interpretation on the hearer's ability to recognize more of the referents in the cognitive record of an ongoing discourse than he can actively recall on his own (cf. Kintsch 1977).

For the purpose of this discussion we will assume that gist consists of relational networks of largely particular knowledge stored in episodic memory, and that such networks are constructed on the model of structures of general knowledge (domains) stored in semantic memory. Discrepancies between an actual recording of a spoken discourse and the mental representation of it stored by the participants in episodic memory would indicate that the linguist's description of a nonce discourse as having at the 'top' a well-defined initial ordered AND node, or an equivalent PS rule, is questionable from a conceptual point of view. Such a characterization would be directly relevant to the actual behavior of language users only if we were to be able to posit rote retention of a nonce discourse. What is actually retained in memory of a particular discourse is subject to a number of variables that are the object of current study. But it is at least clear that the speaker's behavior, in attempting to evoke meaning by verbally referring to concepts that are deemed by him to be recoverable by the hearer from the memory of what has gone before, implies a belief that the intended referents are being retained in the hearer's memory representation of the discourse.

Experiments also indicate that the hearer's gist production is to some extent predictable from the genre, the subject matter, and the textual organization of the discourse (cf. Colby 1972). Psychologists modeling comprehension strategies have suggested that the world is understood by being interpreted in terms of frame-like cognitive structures referred to variously as schemata, frames, scripts (cf. Rumelhart 1975), or programs (cf. Lamb 1984). For Shank and Abelson (1977) scripts are not necessarily well-defined step-by-step events expected in

stereotyped situations, but rather "situation-specific lists of fragments of planned behavior". In the interpretation process such schemata are apparently invoked at both micro and macro levels of structure, but what concerns us here are the larger frames that are referred to as spoken genres. A given genre constrains the interpretation of what develops during the course of the construction of a nonce discourse. The meaning of an ongoing discourse is thus constructed moment by moment, in relation to the expectations of what is likely to occur subsequently as predetermined in part by the genre of the text under construction (cf. Thorndyke 1975). For example, in an interview, what follows a question by the interviewer is more likely to be interpreted by the audience as a response rather than as something else. This is due in part to the fact that a main feature of the genre is an alternating question/response format.

The partial text that I would like to refer to now is the first part of an actual interview that was staged in the Rice University language laboratory in November 1983. The active participants are the interviewer, Sue Larson, and an interviewee, Kay Brewster (see Appendix I). And as is typical for this sort of interview, it was conducted for the potential consumption of an audience, so that the audience is ever present as a passive participant. The conversation was recorded on video tape and transcribed as a text for general discussion at a symposium on discourse semantics this past spring. Because it is about a nose operation that Kay Brewster was having done, the text was dubbed 'the rhinological text' by M.A.K. Halliday, so I will refer to it as the RT.

4. Genre as domain and nonce discourse as particular.

As language users we easily agree, in outline at least, on how to construct an interview. The schema invoked by such a task involves conventionalized procedures. We can thus take a specific Interview to be an action process having active and passive participants, involving turn taking, etc. The active participants include interviewer and interviewee(s). The typical purpose of a public interview is to elicit information, for oneself and for one's audience. The product of interviewing is a totality representing the entire process. Our general knowledge about how to participate in or to construct an interview-conversation belongs to our shared long term memory of specific genres. I will assume that our shared information about the properties of the genre is stored as a conceptual DOMAIN. Just as the general properties of a particular concept nose 1 or operate 1 are computable from the domains NOSE and OPERATE, the general properties of a nonce particular interview are computable from the general properties of the corresponding domain. The relation between an INTERVIEWds (discourse), defined as the product of the process INTERVIEWproc and the content of the INTERVIEWds is that between a whole and its parts. The relational network pictured in Figure 4 attempts to capture some of these feature of the domains

INTERVIEWproc and INTERVIEWds.

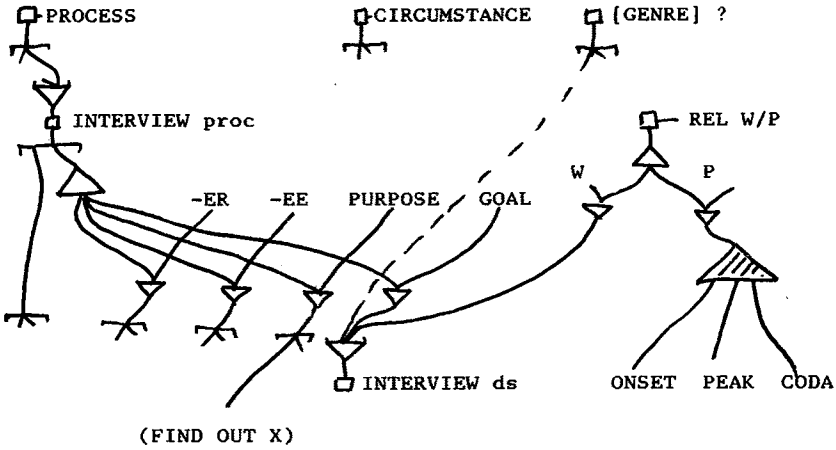


Figure 4.

In describing the general properties of the domain, INTERVIEWds, as product, it is heuristically convenient to conceptualize it as a large ordered AND node with a beginning, that we could, for purposes of simplification, characterize as an onset, a middle that we could likewise call a peak, and an end as coda. Typically, part of the onset consists of an opening statement that establishes the theme of the interview. Among other features the format requires alternating roles of speaker and hearer by the interviewer and the interviewee. The interviewee's turns as speaker are typically longer than those of the interviewer, although particular interviews are most often mixtures of interview and conversation, so that the interviewer and interviewee can be observed to switch roles.

The RT, as a particular exemplar of the genre INTERVIEWds, begins with a statement by the interviewer as onset:

L1,2. S: 'What I would like to find out more about is...your <u>operation</u>...that you are having'.

The choice of the pseudo-cleft construction marks as <u>computable</u> (cf. Figure 3) the fact that the interviewer wants to find out about something. The syntactic stress on <u>operation</u> (as well as the use of the definite <u>you</u>) identifies the concept of the operation as, in this case, <u>recoverable</u> from shared knowledge, as is reenforced by the use of the lexeme 'more'. But the <u>identification</u> of 'operation' as the object of inquiry is <u>relationally new</u>. It is the <u>goal</u> relationship between 'operation' and 'find out more about' that is new to the hearer rather than

the concept of the operation itself. The interviewer goes on to say,

> L6-8. S: '...so tell me what you're having done, an what condition you're gonna be in when you're having it done.'

The subject matter for the interview has thus been established by the interviewer as Kay's 'nose operation'. Salient thematic components are identified as, 'what is being done', and 'what condition the patient is going to be in'. But the interviewee is not satisfied with the scope of the discourse theme as it has been identified by the interviewer, and thus says,

> L9 K: 'Well, maybe I should preface this thing, why I want it done.';

thus adding a third opening component of the theme of the interview, namely the reasons for the operation, to the two already introduced by the interviewer.

In this text the opening statements of the two active participants function simultaneously as a comment on the structure of the discourse as genre and an establishment of the thematic material of this particular interview. Both participants have thus verbally recognized the fact that the genre, INTERVIEWds, requires a conventionalized beginning, and that the beginning of this nonce interview is being constructed according to the general knowledge of the genre that governs the creation of this exemplar of INTERVIEWds. Figure 5 shows an expansion of Figure 4. to include the relation of the domain, INTERVIEWds, to the particular interview under construction in the episodic memory. It will be noticed from the diagram that one of the major features distinguishing the domain INTERVIEWds, from a particular interview, RT, is that the domain has a downward or indicating its hypernymic relation to its actual and potential particulars, while the exemplar, RT, can have no such extension.

Now, what then can be said about the well-definedness of, on the one hand, the initial ordered AND of the putative general knowledge of a genre, and on the other, the alledged initial ordered AND of a particular spoken discourse? Both appear to be less problematic from the point of view of syntax than from the point of view of the conceptual structure, but some fuzzy version the initial ordered AND is apparently heuristically justified in a model of conceptual structure as well.

One of the syntactic features signalled by an ordered AND node is conjunction or linking. Syntactic linking, either by simple juxtaposition or by marked concatenation (cf. Hockett 1958), is the realization of conjunctive relations that obtain within the conceptual representation of a text. And as such, syntactic linking is the expression of conceptual processes, like add, altern, adverse, cause, etc. Apparently all conjunctive relations involve the process, '(simultaneously or sequentially) add' ± one or more other process(es). It is thus possib-

le to model the strictly syntactic properties of a discourse genre as an ordered AND. The ordered AND has the function of encoding actual sequence onto the realization of conceptual relations that do not necessarily involve logical or temporal sequence. A nonce discourse is then viewed as consisting of an individual syntactic trace. Such a trace reflects the properties of the general syntactic discourse code. But the ordered AND characterizing the text, so conceived, clearly belongs at the top of the lexotactics, rather than in the conceptual structure. This observation fits with our notion that a text has both a syntactic status and a conceptual status.

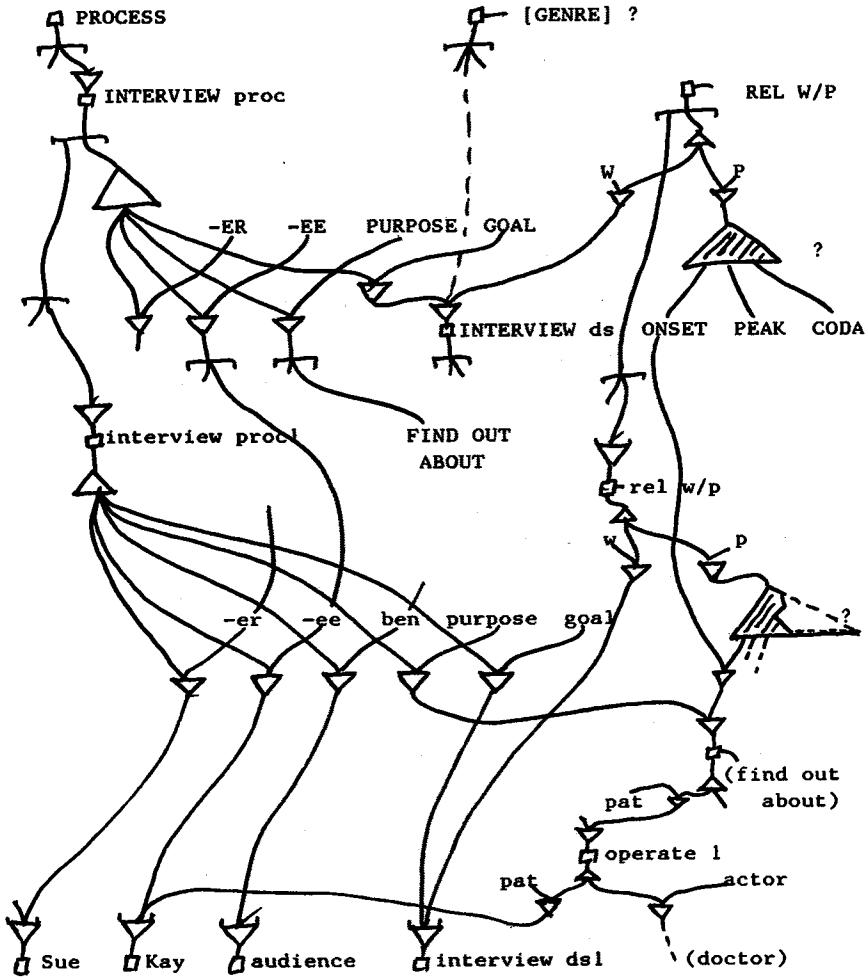


Figure 5.

But what about the representation of discourse genre in the conceptual structure? While it appears likely that positing a well-defined ordered AND in the conceptual genre code makes too strong a claim on determinability in the Hockettonian sense, we need a way to incorporate into the conceptual structure the notion of genre as a 'meaning potential' in the Hallidayan sense. But the fragmentary nature of conceptual scripts and frames as posited by Shank and Abelson seems to indicate that we need a leaky grammar approach to semantic genre, in which genre is viewed as consisting of both conceptual process and conceptual product.

It is, however, clear, given the nature of episodic memory, that the cognitive status of a particular discourse can not be characterized as having at its top a well-defined ordered AND node. Still, the cognitive status of particular discourse must continue to be be included as an object of study in discourse semantics, for it is only by positing a conceptual particular that we can understand the cognitive function of cohesion in the immediate speaker/hearer context of discourse. Apparently logical relations are retained more readily in nonce discourse than sequential relations are. Much detail is quickly lost. What is consciously and subconsciously retained in episodic memory may well be a nondeterminable system. And it is also clear that no matter how well our linguistic descriptions appear to capture what we perceive to be the structure of a discourse, they do not describe the way in which people actually understand. They constitute theories of understanding, approximations, we hope. What remains highly relevant for linguistics, however, is the consideration that the textual organization of a particular discourse strongly reflects the speaker's assumption that the ongoing discourse is being retained in memory, and can thus serve as the matrix for internalizing what, for the hearer, is as yet unknown.

NOTES

1. One of the first theoretical models within American linguistics that was designed to deal with these concerns in a formal way is cognitive-stratificational linguistics (cf. Lamb 1966; Lockwood 1982). Earlier versions of stratificational grammar were intended above all to model the static linguistic code as a network of relations that cluster into a number of strata interrelated in each case by a realizational interface. Potential use of the multistratal linguistic code is conceived of as involving primarily the activation of static relational networks. But the attractiveness of the relational network format is that it has almost from its beginnings included conventions for studying discourse processing as a creative function of the semology.

2. Recent linguistic research on verbal communication has

increasingly been directed to the study of the organization of the semological/ conceptual system and its interconnectivity with the syntactic system. The semological system is now seen by many as being coterminous with the conceptual system (cf. Lamb 1983), so that the two can be treated as if they are the same. But the mapping of conceptual/discourse structures onto syntactic structures in speech production as well as the mapping of syntactic structures onto conceptual structures in the interpretation process remains problematic. This interface is thus one of the major foci of interest in discourse studies at the present time.

3. Though these terms are similar to they are not synonymous with semantic and episodic memory (cf. Tulving 1972).

4. The expression 'unicorn' would have a similar particular cognitive representation, but no referential association to the outside world.

5. These distinctions in knowledge states correlate closely with the distinctions made in cognitive studies between consciousness, episodic, and semantic memory (cf. Davis and Copeland 1980).

6. Or constituent concepts of a text may be invented by a constructive (as against a reconstructive memory) (cf.Kintsch 1977).

APPENDIX

Conversation (interview) between Sue Larson and Kay Brewster.
(Videotaped and audiotaped at Rice University, 11/3/83.)
Sue Larson
Date/Place of Birth: August 25, 1941; New Rochelle, New York.
Kay Brewster
Date/Place of Birth: July 27, 1950; Greensburg, Pennsylvania.

##

1 S: (short ha-S) What I would like to find out more about is your

2 operation...that you are having.

3 K: My nose operation.

4 S: Yes, your nose operation (giggle-S).

5 You see, I have a similar problem and have been postponing

6 doing something about it for a very long time, so tell me what

7 you're having done an'..what condition you're gonna be in when

8 you're having it done.

9 K: Well, maybe I should preface this thing, why I want it done.

10 First of all, I want it for cosmetic reasons. I'm sort of tired

11 of everyone going like this to my nose, so I thought,well,...I

12 would get it cosmetically changed, and then someone told me that

13 I had a problem, you see. That was great! My friend who is a

14 nurse said, "listen, you've got a deviated septum".

15 S: (sympathetic laugh).

16 K: I said, ah, does that mean I can get my nose operated on?

---

379 S: (loud mock whisper) I think we've finished...

380 K: Ok.

381 S: Let's call it 'The End'.

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DISCOURSE AS THE INSTANTION OF MESSAGE EXCHANGE

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Elsewhere, including papers presented to this Association, I have outlined a stratified and meta-functionally based framework for the analysis of discourse (Gregory 1983, 1984 a, b, & c). This communication linguistics model offers a dual perspective on language; it views it dynamically as activity and synoptically as code and seeks to relate synopsis and dynamism. In the light of discussions at the Second Rice University Linguistics Symposium on Text and Discourse Semantics, I have made a few modifications which I wish to present as a preface to an investigation of a short discourse.

Figure I represents the revised relationship between the strata and the planes of experience. Some components remain the same: the codal resources are described in terms of three strata related in a realizatory code cycle: semology (the language's resources for ideational, interpersonal, and organizational or textual meaning); morphosyntax (the 'wording' resources); and phonology/graphology (the 'sounding' or 'signing' resources).

Three planes of experience are still distinguished in the activity but now they are all seen to be instantial. This means that situation refers to the instantial referential realm which is the source of messages. It has an ideational component: the real or imaginary persons, things, relations and incidents; and an interpersonal component: the interests, intents and attitudes of the inter-communicators. All of which are ultimately unique. Such is the stuff of the communicative impetus. Previously I have followed the systemic tradition of regarding situation as the locus of generalizing abstractions about context. However, the Rice Symposium has convinced me that the question of linguistic knowledge cannot be dodged by talking about 'doing' as Halliday does (cf. Halliday 1978: 38,51). What the speaker knows and what the speaker does are not substitutory for each other but complementary. So situation is now viewed as a plane of experience which caters for the instantial, while generalizations which characterize our behavioural knowledge (which includes knowledge about situation) are now more appropriately assigned to the gnostology, the 'message' interface between situation and code which relates both instantial and codal matters of our knowing. As cognitive stratificational linguists have recognized, gnostology involves knowledge taxonomies and the base predications associated with them (cf. Lamb 1970,Lockwood 1972/83 Davis & Copeland 1980).

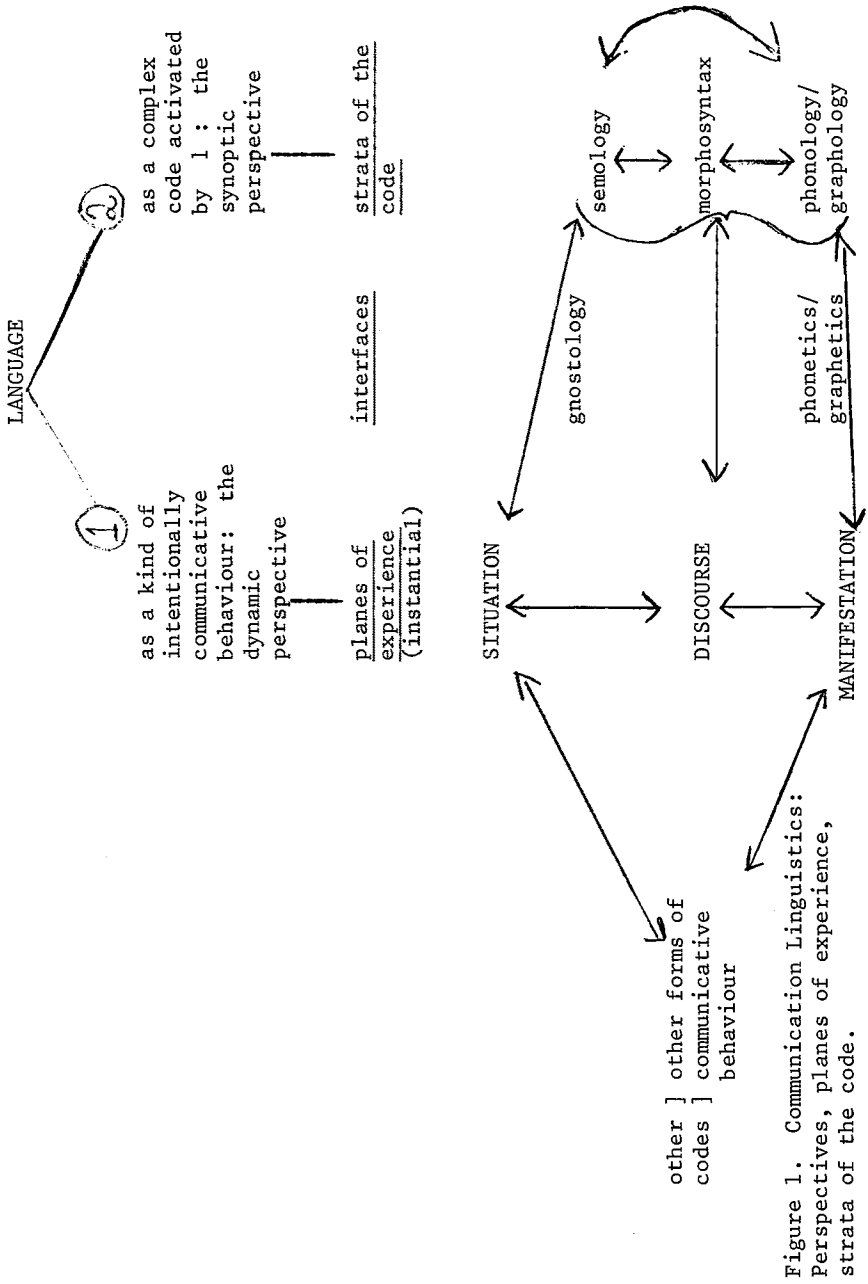

Figure 1. Communication Linguistics: Perspectives, planes of experience, strata of the code.

I suggest that it also has to be seen as the domain of encoders' and decoders' relevant general and specific message creating environments and their knowledge of these environments. The construct I have proposed to describe the macro-environment is the communicating community context (CCC). The CCC of a discourse is describable in terms of the temporal, geographical, social (including the ideological and political) and individual provenances of the inter-communicators: it raises the when, where geographically, where socio-politically, and who (in the global sense) questions. The micro-environment, the generic situation (GS), is describable according to the experience, medium, personal, and functional relationships of the inter-communicators. What are they communicating? How are they communicating? Who are they to each other? Why are they communicating?

The CCC and the GS generalize and particularize the knowledge that is relevant to the understanding of how messages have their origin, are encoded, and more or less decoded. But, as I pointed out at Houston, caution is necessary in the use of the term message. At the least we have to distinguish between the addresser's message, the message received by the addressee, and what I call the viable message: those meanings which are retrievable by third parties who share the code and a generalized, relevant, situational knowledge. The latter is the one that most appropriately concerns the discourse analyst but that need not rule out of court the other two, particularly if we want to assess the uniqueness as well as the inter-relatability of a language event.

Discourse is seen in this model as the activation of the linguistic code in situation to exchange message(s). It is, then, essentially instantial, but also to the extent that meaning is successfully encoded and decoded, a description of it in terms of its codal selections is appropriate.

The text which represents the instance of discourse for this paper, which I have named Party Monologue, was recorded in 1980 at a party hosted by a rock band. The speaker was a young woman of eighteen with several glasses of wine inside her and another in her hand, talking to another young woman similarly filled and occupied. 'Mary', the third person, was on the other side of the room squabbling with a group of three or four about which record was to be played next. The text was bracketed by the activity of listening to, or at least hearing, music, and by dancing.

1. Mary's a new waver.
2. She buys all the latest British records.
3. Plus, she's always at the Edge, when they have a new band in.
4. She wanted me to go with her on Saturday.
5. I didn't.
6. I can't stand that place.
7. She hates me now.

[Period indicates 'sentence-final' intonation centour.

Comma indicates steady final contour or drop. Acute accent represents tonic accent...]

The communicating community context specifies the last quarter of the twentieth century, Canadian North-American, middle class of a liberal capitalist society. The provenance of individuality always links us to questions of uniqueness, but relevant generalizations might be that the speaker was White Anglo-Saxon Protestant, 'thinking of' college, and eager to be part of any peer concensus, when she discovered what that was.

The experience of the generic situation is language as reflection on personal relationships in the context of musical tastes; the medium relationship is spontaneous speech, face to face, and, monologic rather than dialogic; the personal relationship is that of peer familiarity. The most generalized functional relationship could be stated as 'to make party talk', and this is one that, unlike, for example, 'buying and selling' (cf. Mitchell 1957/75) and 'service encounters' (cf. Ventola 1983), is very hospitable to a range of possible sub-functions: 'to explain'; 'to introduce'; 'to get to know'; 'to inquire'; 'to tell anecdotes" etc. The question of the function of this discourse is one to which we will return.

The degree to which this text does represent a discourse is ultimately indicated by the completed analysis. Suffice it to say for the moment that it did function as some sort of communicative whole in its environment, and Figure 2 indicates that its cohesive relations demonstrate a good measure of what Halliday and Hasan (1976) call textuality.

However, central to the description of a discourse in communication linguistics is the analysis of it into phases in order to arrive at a discourse plot. Phase is a tri-functional construct that accounts for those stretches of discourse which exhibit consistency and congruity in the selections that have been realized from ideational, interpersonal and textual systems. The basis for the delineation of phases and, where appropriate, transitions between phases (cf. Gregory 1984[c]), is a description of the propositions, predications, sentences, clauses, groups, and information units realized in the text of the discourse in terms of their semological, morphosyntactic, and phonological structures.

Because consistency and congruity of meta-functional selection are the criteria for phasal analysis, it can be conducted at staged degrees of delicacy, recognizing similarity at one stage of abstraction and dissimilarity at another. So sub-phases can be recognized within phases, and textual discontinuity of phasal manifestation accomodated. Primary, secondary, tertiary phases and their transitions can be charted so as to characterize the discourse's plot as the dynamic instantiation of message exchange in situation. For this short text only two degrees of delicacy were

text	reference	lexical	ellipsis	conjunction
1. Mary's a New Waver	Mary	New Waver	nil	
2. She buys all the latest British records	She	latest British records	nil	implicit 'I know this because'
3. Plus, she's always at the Edge, when they have a new band in.	She	the Edge new band	nil	explicit additive plus
4. She wanted me to go with her on Saturday (to the Edge)	She her (the Edge) me	(the Edge) want	(the Edge) locative	
5. I didn't	her (the Edge) I	(the Edge) want	1) (want to go with her to the Edge) 2) (go with her etc.)	
6. I can't stand that place	that place I	that place can't stand	nil	implicit because
7. She hates me now	she me	hate	nil	now implicit so

Fig. 2 Party Monologue: Cohesive Relations (no substitution)

found necessary.

Indeed, one of the characteristics of this discourse is its overall consistency as regards important selections from the interpersonal and textual resources of the language. All independant clauses select indicative declarative mood, untagged, realizing semological statement, and all select unmarked theme. This means that phasal distinctions are marked by ideational features, primarily experiential (participants, processes etc.) but also involving inter-propositional relationships realized by implicit conjunctivity (see Figure 2, conjunction column).

At primary delicacy two phases are distinguished: phase I, Mary, sentences 1-3; and phase II, Mary and me, sentences 4-7. Phase I is characterized by Mary as human participant in focus (i.e. message starting point) in all three propositions, syntactic subject realizing unmarked theme in all three independant clauses. Syntactic present tense is selected in all verbal groups, and the 'New Wave' lexical set ('New Waver', 'latest British records', 'the Edge', 'new band') is given semological prominence (message highlighting) by means of the phonological tonic throughout.

This phase can be more delicately distinguished into phase Ia, Mary classified (sentence 1), and phase Ib, Mary's habits (sentences 2 and 3) which stands in an evidential relationship to 1a. Phase 1b also introduces other participants: 'the Edge' as a locative in the first predication in sentence 3, and as agent in the second one. 'Latest British records' realizes patient in sentence 2.

Phase 2, Mary and me, is characterized by Mary and the speaker as participants in focus: 'Mary' in sentences 4 and 7, the speaker in 5 and 6. Mental processes of reaction: 'want' (4), 'can't stand' (6), and 'hate' (7) are given prominence; 'want' is also possibly in the ellipsis of sentence 6. This phase is distinguishable into secondary phases 2a, the incident (sentences 4-5), and 2b reactions (sentences 6 and 7). The incident phase is marked by past tense, clausal ellipsis in 5, and the action process 'go'. The reaction phase marks a return to present tense and the introduction of mental reactions of the negative kind: 'can't stand' and 'hate'. It is also possible to regard sentence 6 as a transition between incident and reactions. It stands in a causal relation to 2a and has the tense and mental process type of 2b.

Figure 3 summarizes the phasal analysis as a discourse plot; and Figure 4 represents the discourse as a tentative gnostological reticulum encapsulating the ideational, interpersonal and message organizational information which lies behind the phasal analysis. It attempts to characterize the inter-relation between the codal information and the instance of situation and discourse. It is consistent with the view that gnostology serves as the creative and interpretive interface between communicative code and instantial activity.

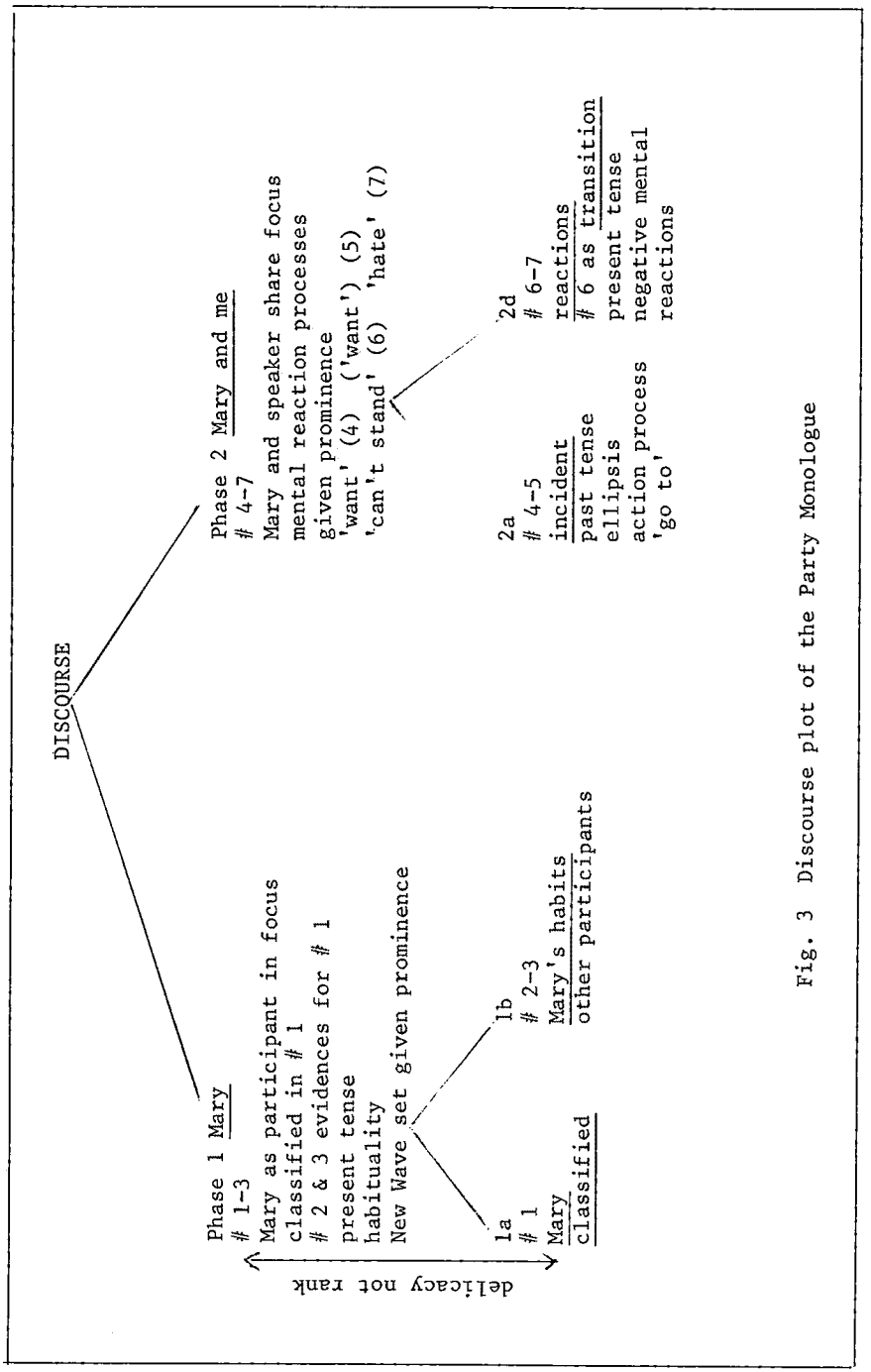

Fig. 3 Discourse plot of the Party Monologue

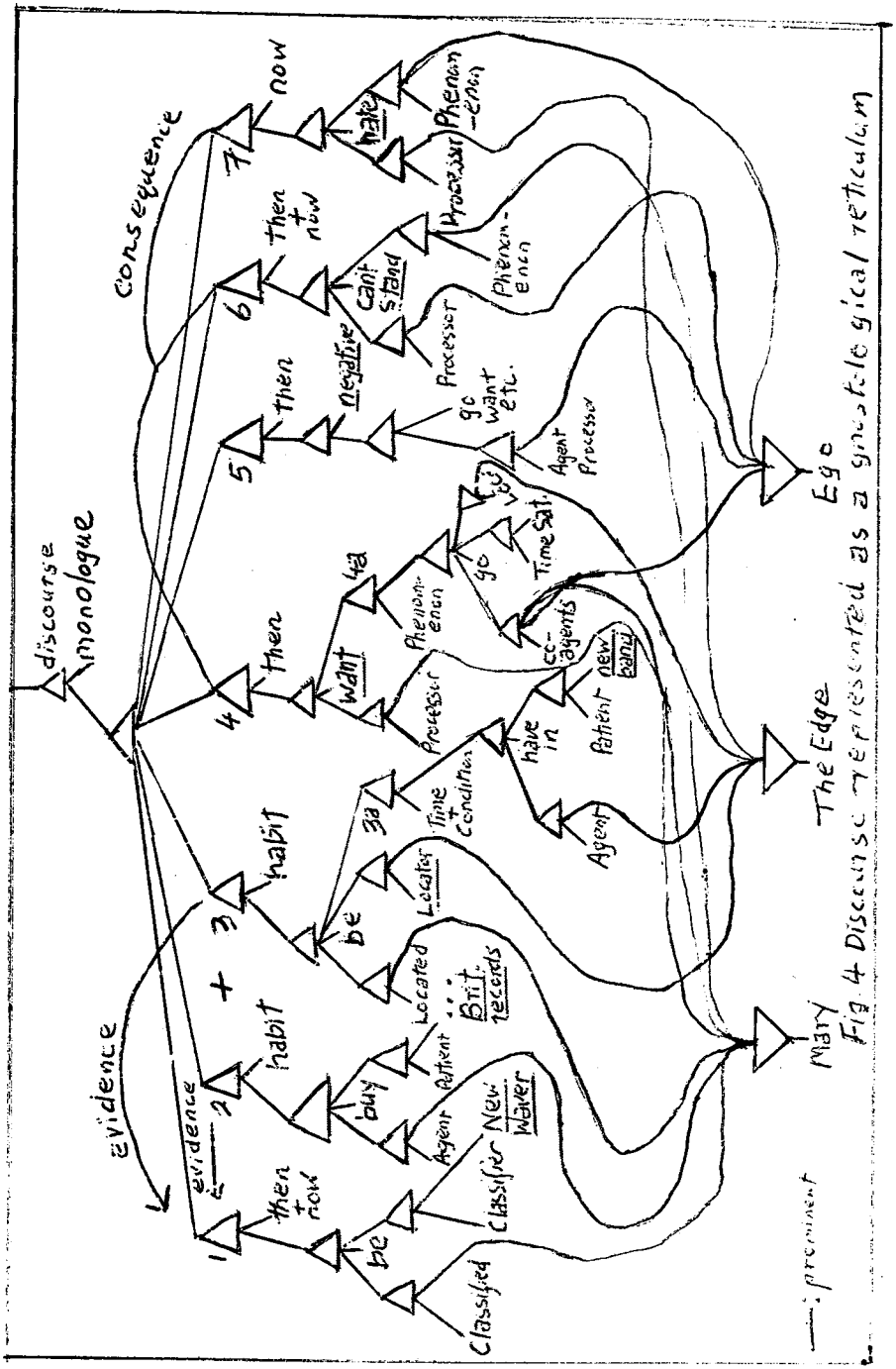

Fig. 4 Discourse represented as a gnostological reticulum

It must be emphasized that this kind of analysis is not the same as that which is usually called discourse structure analysis. It is not hierarchical in any taxonomic sense. Nor is it the same as the schematic structure analysis being developed by Martin (1984). Both Martin and I have always agreed on the importance of the functional relationship between interlocutors but we seem to disagree as regards its place in a descriptive model. Martin recognizes a semiotic plane called genre which provides schematic structures which determine the organizations of texts. I am not confident that this is applicable to many discourses including this one. It is, of course, important to recognize that the functional relationship between addresser and addressee may be reflected in what I prefer to call discoursal schemes, particularly when the function is strongly institutionalized. Schemes for narrative, exposition, instruction, buying and selling, and service encounters all have their value. But with di Pietro (1983) I take as a premise, because I have not seen the contrary demonstrated, that discourse is patterned but not rule-governed. When we are using language we do have schemes of organization we can call upon if we want to, and if they help what we are trying to do with language, but we don't seem to be controlled by them, nor do our interlocutors. And when such structures or schemes are used in analysis they often seem to be imposed on the data and to cease to treat the event as an event, with its intrinsic diachrony as well as its extrinsic synchrony.

A comparison between some discoursal schemes and the phasal analysis is provided by Figure 5. The first scheme, a neutral one, reflects the advice often given to students that if they have anything to say, they should have a beginning, a middle and an end. The analysis in column one was the majority opinion of my discourse class, although a vocal minority thought that 6 belonged with 7 as the end. Column 2 represents an analysis which assumes that the speaker's function was to tell a story about an incident involving Mary and herself. Again a question can be raised as to whether sentence 6 represents the event of the speaker telling Mary why she didn't want to go and wasn't going, or whether it belongs to the evaluatory coda. If the speaker's function was to explain the present relationship between herself and Mary then column 3 presents a possible analysis, and sentence 6 can be seen to be realizing both an aspect of the problem and a part of the evaluation.

However, I was an eavesdropper at this particular language event so I am going to talk about it briefly as an instance of discourse that I knew as a decoder. That means I am considering it catalytically; I had to build up information to receive the message. It means also that I am reconstructing it as a diachronic event; it had a beginning, middle and end in a temporal sense as all discourses do. The first three sentences told me something about Mary and the monologue could have ended there. At that stage, the party-talk function was realized by discourse about Mary's musical taste and habits: the exposition function at the

1 neutral		2 narrative		3 explanation		PHASE
	sentence #		sentence #		sentence #	
beginning	1 - 3	orientation (setting of character)	1 - 3	situation	1 - 3	I Mary 1 - 3 a) M. classified b) M's habits 2-3
middle	4 - 6	events: initiating 4 resolving 5 resolving? 6		problem 4, 6 solution 5		II Mary and me 4 - 7 a) incident 4 - 5
end	(6?) 7	evaluation/coda (6?)7		evaluation 6, 7		b) reactions 6 - 7 (T)

Fig. 5 Discoursal Schemes compared with Phasal Analysis

level of gossip, and I thought that was all I was going to get. However, sentences 4, 5 and 6 told me about an incident between the speaker and Mary (the narrative function): the invitation to a date; a refusal; and the reason given for the refusal. When sentence 7 was added to 6, I knew why the monologue had happened; the speaker was telling her companion why relationships between Mary and her were strained. Character sketch and narrative served the function of explanation. A quite complex discoursal scheme emerged, was found by speaker and hearer, rather than determined the event. Our competence as speakers and hearers most certainly extends beyond sentence boundaries.

In other gnostological respects I did not have to work hard. As father of three members of the band giving the party I was quite familiar with New Wave music, its instantiation in the 'latest British records' and I knew 'the Edge', the Egerton Arms, a Toronto pub then featuring entertainment of the New Wave variety, now, regrettably, country music. But most decoders in the CCC would have known, by sentences 2 and 3, that she was talking about music not film, and that 'the Edge', which could be both a location and the booker of bands, was some sort of place of entertainment. Similarly, the meaning of 'hate' in the final sentence could be assessed in terms of the company it keeps with 'can't stand', in terms of our knowledge of the sub-languages of social groups, and in terms of the co-presence of 'hater' and 'hated' at the party without signs of personal damage. As regards these matters relational networks using nections and their intensions and extensions seem to be the best notational means of characterizing the activation and incrementation of what we know and need to know to participate in discourse (cf. Davis & Copeland, op. cit.). Phasal analysis, I have suggested, has its role to play in characterizing the dynamic instantiation of message in situation.

Claire Jacobson wrote about Levi-Strauss: 'In his elaboration of Mauss' concept of "the total social phenomenon", he is concerned with relating the synchronic to the diachronic, the individual to the cultural, the physiological to the psychological, the objective analysis of institutions to the subjective experience of individuals'. (Levi-Strauss 1963:X1). Increasingly I am convinced that linguistics has to have a similar catholicity of goals if it is to break out of the confines of 'sentence' grammars and illuminate the nature of discourse.

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THE STATUTE AS DISCOURSE AND THE LAWYER AS LINGUIST

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Studies in legal language, which have over the past few years increased markedly in number, divide broadly into two main groups. On the one hand, we have studies of the language of legal documentation, e.g. studies by Bhatia (1982, 1983a, 1983b), Shuy and Larkin (1977) and Kurzon (1984). On the other, we have studies of the language of the courtroom, e.g. Atkinson and Drew (1979), Danet et al (1980), Philips (1984) and Mead (1984). What is missing from both types of study is a sense of the inter-relationship of the language of the court-room and the language of the Statute book.

This paper is concerned with sketching out some aspects of that relationship.[1] I seek to demonstrate in it that it is the use that lawyers as specialised readers make of statutes in the court-room that gives legislative language its distinctive character and that case-law as reported in Law Reports is also a reflection of this same reader use.[2]

A Criminal Law Statute is by its nature made up of general statements taking a form such as:

<u>If a person does x, he shall be guilty of an offence,</u>

where x represents an unwanted action. A criminal trial on the other hand, again by its nature, centres around particular statements relating to the defendant. These statements may take the form

<u>Mr Doe did x on such and such a day,</u>

where both prosecution and defence agree that x is an offence but they disagree as to whether Mr Doe did it. The statements they affirm as true are in a Contrast relation with each other (Winter 1974, 1979, Hoey, 1983). Alternatively the particular statements that may be made about the defendant may take the form

<u>Mr Doe did z on such and such a day,</u>

where both prosecution and defence agree that Mr Doe did z, but disagree as to whether action z counts as an instance of the prohibited action x. When the dispute is of this kind the aim of the prosecution is to show that one or more of the general statements contained in a statute is in a generalisation-example relation (Winter 1974, Hoey 1983, 1984b) with one or more of the particular statements that can be made about Mr Doe: the job of the defence is to show that they are not. And in this way definition becomes central to the law, because it is by defining

the words that make up the general statements that one discovers whether they cover the particular.

A few examples may help. In the case of Grimstead v. the National Coal Board ([1965] 3 All ER) a man was injured by a falling girder used as a prop and sued the National Coal Board, alleging that they were in breach of the Mines and Quarries Act, 1954; the case pivoted on whether the definition of the word apparatus in the act included a girder. (The court decided it did not). In another case (R v. Miller [1976] Crim.L.R.) a man caught on a stolen motor launch was found not guilty of being 'carried' in a stolen conveyance, because the launch was moored and, in the words of Smith (1977), "carriage imports some movement. A person is not carried in a stationary launch though he is borne by its buoyancy". (p.128, my underlining) In a third case, the News of the World Ltd. v. Friend ([1973] 1 All ER), the court decided that a panel of experts deliberating on where the ball should be placed in a Spot-the-Ball competition did not constitute an event and that to arrive at the same result as an expert was not to 'forecast' the expert's decision. Each of these cases was determined on linguistic grounds: a word means this and not that, includes this and not that. These are not isolated instances. Every act contains a list of definitions for use in the interpretation of its provisions and every volume of law reports contains a prefatory page listing the words defined in cases recorded in the volume; the very existence of such lists is evidence of the centrality of definition in case-law.

Nor are the definitions only of lexical items. In one instance (The Federal Steam Navigation Co.Ltd. v. Department of Trade and Industry ([1974] 2 All ER), the case centred on the definition of or: the key phrase from the relevant Act (the Oil in Navigable Waters Act, 1955) noted that under specified circumstances "the owner or master of the ship shall...be guilty of an offence". The issue facing the court was whether or meant either...or but not both or whether it meant and, as in We can offer spirits or soft drinks; Elkan (1974), discussing this case in the New Law Journal, noted that if the first meaning was accepted, a master of a ship who was also its owner could never be charged with an offence under that subsection.

Sometimes the definitions are of words contained in definitions. In one case, English Clays Lovering Pochin & Co. Ltd. v. Plymouth Corporation ([1973] 2 All ER), the company claimed that they were allowed to erect new buildings at their Mills, on the grounds that each building would be, in the words of the Town and Country Planning General Development Order 1963, an "erection by mineral undertakers on land in or adjacent to and belonging to a quarry or a mine", although the place where the clay was dug out of the ground was three or four miles away from the mills. The company claimed that they were an instance of mineral undertakers and that their mills were an instance of land in or adjacent to a mine. As it happened, the Development Order provided a definition of mineral undertakers - "undertakers

engaged in mining operations" and a definition for mine "any site on which mining operations are carried out". Since both definitions included the words mining operations, the next step was to define mining operations; this too the Order provided as follows: "the winning and working of minerals in, on or under land, whether by surface or underground working". This then brought into the foreground the phrase winning and working of minerals. Since minerals were defined in a related Act in a way that clearly included china clay, attention turned to the phrase winning and working. Winning a mineral was defined by the court as 'making it available or accessible to be removed from the land' which ruled Marsh Mills out as land in a mine unless and meant or. In this case however it was decided that it could not, because elsewhere in the Development Order the phrase 'winning or working' had been used, showing that and contrased with or in the Order. Thus, after all this, the court was able finally to decide that Marsh Mills was not a mine. However, it was connected by a pipe several miles long to the place where clay is won and worked, so a definition of the phrase adjacent to a mine was required. Not unreasonably the court decided that adjacent to did not include distances of several miles, and so the company lost its case.[2]

In the Merchant of Venice Shakespeare portrays a court scene in which Portia saves Antonio from a gruesome fate at the hands of Shylock by claiming that the definition of flesh in a pound of flesh does not include blood and that the term pound is an exact not approximate measure of weight in the context of the bond. It will be apparent from what has been said that Shakespeare was reflecting legal practice and not being merely fanciful.[4] But are the definitions courts use ever as unlikely as those Shakespeare gives? I would argue that they are. Lawyers are in some sense linguists. They are not however necessarily good linguists. I have attended a case (as a spectator) in which a barrister earnestly argued that the word month in an extradition order meant lunar month. A more serious instance was the case of Charter and others v. Race Relations Board ([1973] 1 All ER) where a Conservative Club had refused membership to an applicant on the grounds of his colour. Proceedings were brought under the Race Relations Act, the key issue being whether members of the Club constituted a section of the public. Their Lordships decided that the word public contrasted with private and that a club, being private, fell outside the scope of the Act. It does not seem to have occurred to anyone that the public is different from public nor that the absence of a parallel phrase the private might be suggestive of its having a different signification. But then perhaps other motives may be adduced: motives of expediency. In Wiltshire v. Barrett [1965] 2 WLR 1195, a case of wrongful arrest, committing an offence was defined as apparently committing an offence; in Sydall v. Castings Ltd ([1966] 3 All E), descendant of father was said not to include an illegitimate child. In neither case is it likely that a linguist would have come to the same con-

clusion. If the explanation is expedience, perhaps linguists should draw attention to the fact; if it is ignorance of principles of definition, perhaps we should teach them some linguistics.

To do so however presupposes that we understand what they are doing and the nature of the texts they deal with. Arguments in favour of the use of natural, plain English in the drafting of Statutes (e.g. Hager, 1959; Redish, 1979) show a lack of awareness of the difficulties draughtsmen face, and in particular of the interrelationship of case-law with its emphasis on definition and statute law with its concern to avoid litigation. For it is my claim that the relationship between statute and case-law is such that the longwindedness and obscurity of the language of statutes is the consequence of the use made of them in courts.

Draughtsmen aim to provide generalisations that will cover all and only the intended particulars.[5] As Bhatia (1983b) notes, they seek "to avoid litigation rather than to communicate the law of the land to the general public" (p.7). He wryly adds "the relationship between those who write [legislative] documents and those who are most likely to interpret them in the court of law is rarely in the best traditions of co-operative behaviour" (p.12). To show how unco-operative use affects legislative language, let us consider a simple example. A law is needed to stop people hurting or capturing badgers, so a simple one-sentence statute is drawn up with all the virtues of the plainest English:

1. Don't kill, injure or take any badgers.

Immediately a fundamental question is raised by the ambiguous imperative: is this advice or an order? So we have to spell out that it is an order by making it clear that not obeying it will constitute an offence. Our injunction must now therefore read:

4. If any person kills, injures or takes any badger, he shall be guilty of an offence.

The effect of this is to shift the emphasis from the forbidden situation to the consequence. As it stands, however, it still will not do, as a man seen axe in hand outside a badger's sett would not be guilty of an offence. Redrafting, however, produces the following version:

2. If any person kills, injures or takes any badger or attempts to kill injure or take any badger, he shall be guilty of an offence.

Suppose, however, that someone kills a badger by accident, for example, on the highway. To avoid unintended prosecution we have to redraft as follows:

3. If any person wilfully kills, injures or takes any badger or attempts to kill, injure or take any badger, he shall be guilty of an offence.

This is recognisably legal language but is not yet good law. There may be legitimate reasons on occasion for destroying a badger. So a further adjustment must be made, which in fact produces the first sub-section of the UK's Badgers Act 1973:

5. If, save as permitted by or under this Act, any person wilfully kills, injures or takes, or attempts to kill, injure or take any badger, he shall be guilty of an offence.

The point being made here is that the apparently convoluted syntax of legislative language is a product of the uncooperative reading it will encounter. Whereas normally a reader will supply the omissions in what an author has written, in a statute the writer has to supply all the omissions for him- or herself, since not only will the reader not supply them but he or she will actively seek to capitalise on their existence. In case it is thought I am overstating my case, consider the following section from the Official Secrets Act 1920:

> No person in the vicinity of any prohibited place shall obstruct, knowingly mislead or otherwise interfere with or impede the chief officer or a superintendent or other office of the police, or any member of His Majesty's forces engaged on guard, sentry, patrol or other similar duty in relation to the prohibited place, and, if any person acts in contravention of, or fails to comply with this provision, he shall be guilty of a misdemeanour.

One might imagine the draughtsman had covered every possible litigious contingency; indeed one could be forgiven for thinking the writer had overdone the supplying of omissions. Yet in the case of Adler v. George [1964] 2 WLR, the defence argued that a man who was arrested in a prohibited place was not guilty of any offence, because the section I quoted specified a "person in the vicinity of any prohibited place" not a person in a prohibited place.

Just as the draughtsman of legislative language seeks to prevent a reader drawing unwanted inferences from omissions, so also he or she needs to prevent the drawing of a different kind of unwanted inference, namely the inference a reader draws about the semantic relationship holding between sentences. In other words, the writer has to actively discourage the normal process whereby a reader infers the semantic relationship holding between adjacent sentences, the semantics of clause relations described by Winter (1974, 1977, 1979), Jordan (1978, 1980, 1984), myself (Hoey, 1979, 1983) and others. Accordingly, although there is cross-referencing between sections and although, as Bhatia (1983b) demonstrates, sections are organised internally according to normal discourse principles, there is no clause-relational pattern of organisation to the Act as a whole. There is the basic Matching relation of compatibility between statements of what count as offences, but there is no sequence to these. The only discernable organisation is one derived from

the cohesion (Kurzon, 1984). While there is a strong tendency for the most important provision of an Act to come first and for definitions to come in the final section, the order in which sections are presented is largely arbitrary and the Act which they comprise would be as legally effective if they were jumbled.

How can we account for this? An analogy with the natural world might help. Typically, written discourses are complexly organised so that the possibilities of resequencing without rewording are strictly limited. Such discourses are like animals - single, self-contained organisms capable (within limits) of survival on their own. Statutes on the other hand, are very loosely organised so that each section shares a common environment and resequencing poses no problems. Such discourses are like hives or ant-hills. Each section is a self-contained organism but like a lone ant or bee it can only survive as part of its colony and has no purpose apart from it. Other types of colony are examination papers and constitutions, though the concept seems capable of further extension.[7]

To sum up, then, the lawyer is concerned to show the compatibility or contrast between particular statements in case-law and general ones in statutes. This leads to a concern with definition in the court-room which in turn affects the nature of legislative language, by encouraging maximum explicitness; one of the side-effects of this is that the Statute is not organised in a way that allows for reader inference but as a colony. Thus discourse structure and courtroom strategy are seen to be intimately related. At the outset of this paper I said that the study of legal language needed to take into account the relationship between the language of statutes and the court room. My case rests.

Footnotes

1. This paper has benefited from detailed discussion with Dr. E.O.Winter; the substance of it has been commented on by students and colleagues at the University of Birmingham.

2. Throughout the paper reference is made to English Law and English legal practice. While I believe the claims made to be broadly applicable to the American and Canadian situations, this will need to be separately verified.

3. For the purposes of presentation I have linearised the argument somewhat; the original judgements present the definitions in a different order.

4. F.J.Furnivall (1898), a nineteenth century critic and lawyer, noted "[One] tradition says that [Shakespeare] was an attorney's clerk; and that he was so at one time of his life, I, as a lawyer, have no doubt. Of the details of no profession does he show such an intimate acquaintance as he does

of law." (p.vii).

5. In this, they are aided by Manuals for drafters; examples in Britain are Russell (1938) and Thornton (1979). It is worthy of notice that the latter makes reference to the works of modern linguists.

6. The use of the pronoun he to stand for both sexes is an oddly persistent instance of sexism overriding the need for precision.

7. In the discussion that followed Professor H.Gleason drew attention to the dictionary as another example of a colony.

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SOME RELATIONS OF SURPRISE AND EXPECTATION IN ENGLISH

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Examine the following partial account of a soccer match.

(1) Crystal Palace, leaders for so much of the season, gave an inspired performance at Chester which would have doomed them to another season in the Third Division even if Cardiff had not won at Bury. (modified from Example 2)

This sentence, although grammatically unexceptionable, is internally semantically inconsistent. The reason for this inconsistency is the reader's knowledge and/or expectation that an inspired performance would not doom the performers to anything. Now note the difference created by a small change to one word:

(2) Crystal Palace, leaders for so much of the season, gave an insipid performance at Chester which would have doomed them to another season in the Third Division even if Cardiff had not won at Bury. (Daily Telegraph, 5 May 75, P30)

The change of <u>inspired</u> to <u>insipid</u> creates clarity out of confusion because we understand that an insipid performance could doom the performers. If the performance had been inspired, Example 1 is poorly worded because it lacks linguistic signaling of the "surprise" that such a performance should lead to failure. More appropriate wording would be:

(3) Crystal Palace, leaders for so much of the season, gave an inspired performance at Chester. But it was all to no avail, as they were doomed to another season in the Third Division by Cardiff's win at Bury. (modified from Example 1)

The need for semantic compatibility within the clause has been discussed at length, but the need for semantic compatibility between clauses has received less attention and this paper introduces some of the systems of surprise and its converse expectation.

ADVERSATIVE AND CONCESSIVE RELATIONS

The attempt-failure combination connected with Examples 1 to 3 is explained by Sweet (1900):

"Adversatives add something which is unexpected, or, at any rate, does not follow naturally from what has just been said or is seen to check the natural progress of a narration, argument, etc. Thus the idea of 'trying' naturally suggests that of 'succeeding' and words or word-groups expressing these two ideas in their natural sequence are joined together by and: he tried several times, and at last succeeded. Failure, on the other hand, though a frequent result of trying, is felt to check this natural sequence, and so a statement of failure is joined to a statement of attempt by means of but: he tried hard, but he did not succeed." (P146)

The checking of Sweet's "natural sequence" is expressed as "surprising" by Quirk (1954):

"Perhaps the most satisfactory statement to use as a working guide is simply that the concessive relation may be said to exist between parts of an utterance when one part is surprising in view of the other." (P6)

and this is neatly summarized in Quirk et al 1974:

"Concessive conjuncts signal the unexpected, surprising nature of what is being said in view of what was said before." (P874)

Sweet used the term adversative in the same way that Quirk et al used concessive: to indicate a break in the natural tendency of the discourse. More usual usage nowadays is to treat adversative as meaning contrast (Hartmann and Stork, P6), although they unfortunately use the concessive example "Though he was brave, he was prudent." to illustrate their definition. Quirk et al do not use the term adversative, but instead list reformulatory conjuncts (e.g. i.e.), replacive conjuncts (e.g. alternatively, on the other hand), antithetic conjuncts (e.g. in contrast) and concessive conjuncts (e.g. however) under the general label of "contrastive." This tends to be misleading as the item contrast is generally understood as meaning "set (two things, one *with* another) in opposition " (C.O.D.). Quirk et al's classifications are based on those in Greenbaum 1969 (P36/37). Greenbaum defines (unhelpfully) contrastive as "in contrast with what has been said before," defines adversative as "what is being said is at variance with what has been said before" and defines antithetic as "what is being said is in complete opposition to what has been said before." This paper views concessive and adversative (contrast) relations as part of a much wider family of relations signaled by the "concessive conjuncts."

BUT OF COURSE!

Given that the concessive relation, which can be signaled by but, indicates surprise and of course clearly indicates expectation or knownness on the part of the reader, we would hardly expect to see the two in combination. But of course they do occur in combination — especially in speech where "But of course." is a common indicator that the speaker knows the truth or validity of what s/he has just heard. The following combination of But of course indicates surprise and expectation:

(4) A compelling reason why this resource [sand and gravel] may eventually be used extensively here is the exhaustion or zoning out of nearby land supplies. But, of course, such use is fraught with delicate ecological considerations. (Shore and Beach, Apr 71, P2)

The final sentence re-enters the earlier development of offshore sand and gravel by such use, and the predicate is an assessment of that use in negative terms. The of course indicates that readers will know of that assessment and probably agree with it, but what is the function of But? Quite simply it provides the transition between the good assessment given as the compelling reason in the previous sentence and the bad assessment which identifies a serious problem with such use. Here is a similar example:

(5) The discussion has also concentrated on the application of fibre optics to absolute encoders. For incremental encoders, the problems are similar but, of course, fewer cable sources are required. (Original Equipment Manufacture and Design, Nov 78, P94)

Again of course signals the expectation or obviousness of the final clause; this time but is indicating the transition between the similarity of the problems signaled by similar and the differences indicated by the comparative fewer. The specific aim of this paper is to present evidence for widening the concepts of concession and contrast to the need for signaling transition between many such distinct types of information. The apparent anomaly created by But of course, But naturally, etc. is explained in terms of But being a matter of relationships between two or more clauses, whereas attitudinals such as Of course, Naturally, Amazingly, and Surprisingly indicate the writer's assessment that the statement about to be given is surprising or not surprising as a statement independent of the remainder of the discourse. We must put this second matter clearly aside in order to concentrate on some of the semantics of the "concessive conjuncts."

THE TRADITIONAL CONCESSIVE RELATION

Example 4 and 5 could be re-written using any of the concessive conjuncts listed by Greenbaum and by Quirk et al (e.g. however,

nevertheless), but they are clearly different types of relations and do not fit the traditional sense of the term concession. This traditional sense seems best described as an expected conclusion not being reached in spite of the conceded statement (Winter, 1974, 1982). Sweet's try-but-fail combination fits this pattern: although s/he tried, s/he failed. Given that the person tried, we naturally (illogically perhaps, but that is not the point) expect success, and we are "surprised" to learn otherwise.This combination is more specific in Examples 2 and 3; an insipid attempt naturally leads to failure, whereas an inspired attempt naturally, we would expect, leads to success. The denial of an expected conclusion is clearly demonstrated by the next example:

(6) About 600 troops are pulling out of Northern Ireland, Mr Rees, Secretary, announced last night. The men of Army's Spearhead Battalion, a support unit for key trouble spots, leave the province today.

They were flown into South Armagh for the first time in January, after the upsurge of violence. But their withdrawal will not mean a cutback in security, as the SAS will remain and other troops are to be redeployed from West Belfast. (Daily Telegraph, 5 May 76, P32)

It seems possible that traditional concessive relations could be described under such general headings as problem-solved, promise-fulfiled, try-succeeded, order-obeyed, aim-achieved, mandate-carried out, and condition-met. What all these combinations have in common is that they are expectations of society that are independent of language structure, and language reflects these expectations and surprises by special signaling. There are other combinations, however, which are signaled by But, However, etc. but which are specifically language structures: they are used to signify transition between different types of information and indicate no other element of "surprise" than the fact that the type of information is changing. Some of these are now discussed.

KNOWN-NEW RELATIONS

A common relation — especially at the start of general interest articles — is to provide known material followed by new material which will form the basis of the discussion to follow. The transition from known to new is, of course, signaled by but, however, etc.

(7) By now, everyone is probably well aware that coronary heart disease is today's biggest single killer. And hand in hand with this goes the knowledge that the use of polyunsaturated fats instead of saturated fats is considered one of the easy preventive measures against heart disease.

> But did you know that one of the polyunsaturates, or essential fatty acids (whichever you care to call them), is also known as vitamin F? (Here's Health, Jul 76, P33)

The knownness of the first part of the relation is communicated first by everyone is probably aware that and then knowledge. The question implies new information for readers with But signaling the transition. Pseudo-clefts are very common with this and similar structures, with such signals as (But) what you may not know mediating between "known" and "new" material, (But) what it can do mediating between "not possible" and "possible" information," etc. Evidence for regarding known-new as a separate relation comes from the common structure not only/just ... but also):

> (8) At the awards dinner in March, leaders from the fields of education, industry and the design professions will join with steelmen to pay tribute not only to the award winners, but to all the architects, designers, engineers and artists who create the products, structures and works of art we use and enjoy, yet often take for granted. (Steelways ASIS, Jan/Feb 69, P9)

Tribute will obviously be paid to award winners at the awards dinner, and knownness of this information is acknowledged by not only with but again signaling the transition between the known and new material.

The opposite to not only... but also is as well as, "They expect me to be an accountant as well as a linguist" being a complaint from a linguist calculating travel expenses, and "They expect me to be a linguist as well as an accountant" being a complaint from an accountant trying to understand written instructions. The connection between the knownness signaled by As well as and the semantics of subordination is illustrated by:

> (9) Electron tubes still occupy a position of significance in the electronic-components industry. As well as the traditional fields of microwave generation and light displays, newer areas such as image sensors have assumed increasing importance in recent years. (Electronics and Power, May 77, P401)

The knownness is indicated by the initial subordination (discussed at length in Winter 1982), by As well as and by traditional. The new material is prefaced by newer areas, and the transition between known and new coincides with the grammatical boundary of subordination. Fowler (1968, P36) claims similar semantics for subordination at the end of the sentence, but provides inadequate documentation. See Winter 1982 for an illuminating discussion of this topic. The known-new relation is dealt with in more detail in Jordan 1985.

"EXPECTED" TRANSITIONS

Although the concessive relation involves society's "surprise," other relations signaled by the concessive conjuncts are clearly expected. A clear example of this is the complex "thesis - concession - rebuttal" structure discussed in Jordan 1978, P157-162. This is explained by Werlich (1976) who unfortunately fails to distinguish between traditional concessive structures and thesis-concession-rebuttal: "The *concessive clause* is the characteristic clause for including in a sentence objections which might be advanced by the addressee against the encoder's main assertion. The encoder admits or concedes these objections as of only secondary or minor importance. They do not affect the validity of his thesis." Such a structure is illustrated below:

(10) "I don't tell lies! And I suffer when you accuse me of lying. I don't lie. Sometimes I refuse to give information, sometimes I keep a secret, but I never lie." (Sunday Telegraph, 21 Mar 76, P33)

The thesis that the speaker does not tell lies is maintained despite the conceded information in the first two clauses of the fourth sentence. There is no specific signal of concession in this example, but usually there is. The concession is usually signaled by May, Granted, Admittedly, True, Of course, Obviously, Clearly, It is conceded that, etc. in formal registers and Yeah, Not that and O.K. in less formal registers; the rebuttal is signaled by but, however, nevertheless, etc. Alternatively, when the conceded information is known to readers, a concessive subordinator (although, despite, etc.) indicates both concession in the subordinate clause and rebuttal in the main clause.

The difficulty in classifying such rebuttals as "surprises" is that the overall structure of the text forewarns us of the rebuttal, i.e. we actually expect the "surprise" in view of what was said before and its structure signaling. So strong is this prediction that readers may feel the writing is lacking something if the writer fails to fulfil the predicted structure or delays its completion. In the following example, readers are kept waiting for over a very large paragraph before the narrative returns to the main theme to complete the structure. The rebuttal in this case is prefaced by To be sure and the pseudo-cleft and signaled by but with the concession predicting this rebuttal being signaled much earlier by True.

(11) I not only started late, but I must have wandered nearly half the time. True, I met plenty of people, grubbing in little miserable fields that would not keep a cat, or herding little kine about the bigness of asses.... (244 words omitted here)

To be sure, this was no concern of mine, except in so far as it entertained me by the way. What was much more to the purpose, few had any English, and these few (unless they were

> of the brotherhood of beggars) not very anxious to place it at my service. I knew Torosay to be my destination and repeated the name to them and pointed; but instead of simply pointing in reply, they would give me a screed of the Gaelic that set me foolish; so it was small wonder if I went out of my road as often as I stayed in it. (Kidnapped, R.L. Stevenson, Ch 15)

Although in such structures the rebuttals are surprising in concessive terms in that they can at least loosely be regarded as denying expected conclusions, they also very clearly contain predicted information, which is thus hardly surprising in view of what was said before. To overcome the difficulties of Quirk's definition, while still retaining its main essence of the concept of "surprise", I retain the concept of society's "surprise" for the denial of expected conclusions in traditional concessive relations, but I also recognize other relations of "linguistic surprise" such as known-new, thesis-concession-rebuttal and others to be discussed. Society's actual surprise at the traditional concessive relation is thus distinguished from similarly-signaled "linguistic surprises" created solely by transition from one type of information to another.

LINGUISTIC SURPRISES

The remainder of this analysis introduces some of the prevalent linguistic surprises in English.

Situation-Problem

Within the established complex framework of "Situation-Problem-Solution- Evaluation," the transition from situation to problem is often indicated as a linguistic surprise:

(12) A touch of greenery in the form of trees and shrubs does wonders for the environment but retaining its growth can sometimes be a problem. (Example 9 of Rhetoric of Everyday English Texts, M.P. Jordan, Allen & Unwin, 1984)

The use of but in this example merely indicates the transition to the linguistic passage of "problem," such a transition often being very highly anticipated by readers. But here is not a signal of problem itself such as is Unfortunately — it merely indicates the transition to a type of information signaled, in this case, by problem.

Good-Bad Evaluations

Transition from "bad" to "good" evaluation is even more clearly predicted than that from situation to problem. Comments starting "Good structure and well expressed" leave students on tenterhooks waiting for the but to come, followed of course by the

bad part. There is a clear tendency to place the good evaluation first as in Example 4 and in:

(13) This method is accurate but it falls short in that it is only valid for one particular feature. (Sound and Vibration, Oct 76, P28)

Adversative (Contrast) Relations

Relations of contrast are often highly predicted (Winter 1977) by such words as contrast and difference. The transitions between the parts of these relations are again often signaled by but or however, although whereas and while are the special transition indicators for these relations. These relations involve differences between co-hyponyms, and also differences resulting from change in circumstance, location, or time:

(14) One was brought up to the relatively sensible idea that laws were to prevent you hurting other people. What you did to yourself was your own affair. But no longer. In the last decade we have a great mass of laws about safety, of which the compulsory seat belt is the latest. (New Scientist, 25 Mar 76, P697)

All adversative relations involve implicit or explicit denial, which is made clear by Winter's term (1974) comparative denial (what is true of X is not true of Y) for such relations. In this example, what was true is no longer true, and this is followed by what is true now. Note that, where the denial is marked by separation from the correction (what is now true) in this way, it is the denial not the correction that receives the signal of transition: the linguistic surprise is the denial itself.

Hypothetical - Real (Winter 1974)

The transition between information signaled as having an element of doubt (hypothetical) and its denial of being true is another linguistic surprise, which is closely related to adversative relations. The signal of doubt or uncertainty is usually clear and the hypothetical statement is often denied as a separate statement (e.g. But this proved to be untrue), with But providing the necessary transition between the hypothetical and the denial. What is true then follows. When the denial is not explicit (as in Example 15), the transition from hypothetical to the real correction is still signaled, just like adversative relations which have no separate denial of comparative truth:

(15) After 1972 the miners consolidated their claims: in 1974 they helped bring down a Conservative Prime Minister — sweet revenge for Stanley Baldwin. In 1975 the Labour Government diplomatically allowed another huge pay increase without a struggle...

But there is no permanent shift in power. (Sunday Telegraph, 25 Apr 76, P34)

Complementation

Counter-intuitively perhaps, transition between one part of a set of information and complementing information is signaled as a linguistic surprise. The known-new combination signaling by not only ... but also demonstrates the compatibility of such transitions working in combination with also. Complementation of two reasons is shown by:

(16) It is hard to say why the event was such a popular one. It must have been partly due to the efficient advertising which included features on radio and television and meant that some people came from as far away as Kent, Surrey and Norwich. But I think that the success of the event was also due to the latent interest that a lot of people living in or close to towns in Hertfordshire have in the countryside. (Hertfordshire Countryside, Oct 75, P12)

The structure only works in this example because of the predictive nature of partly, which demands semantic complementation to provide the other part of the total reason. Complementation as a linguistic surprise helps to explain the transition signaling of two truths of opposites:

(17) The coal industry could not have survived without the electricity industry. But the converse was also true. The electricity supply system would break down without coal. (Sunday Telegraph, 25 Apr, P34)

Denial and Correction

Writers often need to correct an impression their readers might have and the not ... but structure is commonly used to achieve this. Here is an example with the correction being reinforced by rather. Note the real-hypothetical relation at the end with However as the transition indicator and thought as the signal of hypotheticality:

(18) At about the same time tetanus and diphtheria were discovered to be infectious diseases caused not directly by bacteria, but rather by toxins, poisons secreted by the bacteria into their environment. However, as it was impossible to produce cholera by injecting culture filtrates of V. cholerae into an animal, people thought that a toxin was not involved. (New Scientist, 25 Mar 76, P693)

Change of Topic

If we accept that it is linguistically "natural" to continue a given type of information and therefore a "surprise" to change the type of information being offered, it is easy to recognize a change of topic as a linguistic surprise. Change of topic is often the sole function of a printed paragraph. In the next example, discussion of technical feasibility is complete, and economic aspects now need to be dealt with.

(19) But the critical tidal amplitude is only one requirement for tidal power plant development. (Canadian Consulting Engineer, Dec 74, P10)

Similarly reversion to a previous topic is also a linguistic surprise. Here is an example with a change of topic and a hypothetical - real transition (note the actually) signaled by but in the same sentence:

(20) "Why do sharks attack - hardly ever eat people? Are skin divers immune from them? But first it's back to that remarkable machine croaking its greetings like some benevolent Darlek but actually reading the words of ordinary type." (Science Now, 15 Jan 76, P1)

We can conclude that we have a linguistic surprise whenever the natural sequence of the discourse is changed. The interjectory But of change of participant in speech is but one further example of the prevalence of the transitions introduced here.

Conclusions

The concept of change of type of information is very much broader than we might first imagine. The transitions discussed here are probably the most common, but there are many more and this points to the need for detailed study of the semantics of the "concessive conjuncts" outside the confines of previously accepted definitions.

Other transitions noted are: good - better, good - detraction, bad - mitigation, bad - worse, don't know - guess, don't know - under study, don't know - some information, solution - problem with solution, success - problem remaining, interesting - irrelevant, interesting - not discussed here, know - won't say.

All these definable combinations seem to be reciprocal in that either of the two elements in the binary system can occur first — just like the hypothetical-real and real-hypothetical structures in Examples 15 and 18. Many of these "linguistic surprises" can probably be grouped under a manageable number of general headings with lists of specific relations in each major classification. It would appear that such work is needed as part of detailed definition of the clause relations of English.

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SITUATIONAL AND GNOSTOLOGICAL EXOPHORA AS FEATURES OF COHERENCE IN CASUAL CONVERSATION

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Introduction:

From my analyses of several spoken texts between both adults and children, it has become apparent that the tendency towards coherence manifested in casual conversation cannot be exhaustively described,using the framework for cohesion offered by Halliday and Hasan in Cohesion in English,1976.In their spontaneous discourse, according to the examples within my corpus, children make extensive use of referential, conjunctive and lexical cohesion,or relations, as traditionally defined. However, they seldom use ellipsis or substitution cohesively. Adults seem to use all five varieties of cohesive device to connect their discourse intersententially. In addition,they employ a greater variety of cohesive forms: lexical collocation as well as repetition, demonstrative reference as well as personal, alternative and adversative conjunction as well as additive.The development of cohesive repetoire that is a function of age, or more specifically, of linguistic experience, can be observed using the aforementioned framework. However, another equally, if not more important feature of casual discourse,exophora which ties a discourse to its situation or gnostology, lies beyond the scope of the descriptive capabilities of their publication. It is the purpose of this paper to make some preliminary suggestions as to how exophora might be described, using the descriptive framework of Communication Linguistics.

Exophora is the term Halliday and Hasan use to describe situational reference, where the presupposition set up in the discourse is satisfied by recourse to the context of situation (1976: 33). This definition is not very revealing when it is used to describe the phenomenon in casual conversation. Its scope is too broad to allow further specification and categorization within the systemic framework. However,using the concepts of Communication Linguistics introduced by Gregory and Malcolm in 1981, and further developed by both,and others since,exophora can be redefined in a way which not only allows, but encourages further research(cf.Gregory and Malcolm 1981,Gregory 1984 abc,Malcolm 1982 ab,1983 abc;Asp 1984).

Situation, according to Communication Linguistics, is the instantial referential realm, from which we encode ideational and interpersonal components in an intended message, and to which we have recourse in order to decode an interpreted message. It is considered one of three planes of experience: situation, discourse and manifestation,which we use to describe the dynamic aspects of our intentionally communicative verbal behaviour. In order for a

message to be transmitted, it has to be encoded,manifested and decoded, activating the linguistic code, which adds a textual component to the ideational and interpersonal components realized in the situation.The linguistic code is the synoptic perspective on language, and is tri-stratally organized in a realizatory cycle: semology is realized by morphosyntax, which is realized by phonology/ graphology (cf. Gregory 1984c). Discourse, then, is the activation of the code in situation. Gregory writes,' Discourse is not only essentially activity and instantial, it is also, to the extent that it is encoded and decoded, transitionally codal for the interlocuters (ibid). The gnostology is the interface between the planes of experience and the code, in which the instantial and the non-instantial,respectively, are related. This is the domain of the interlocuter's general and specific message potential environment. The communicating community context/ CCC (formerly called the Speech Community Context), describes their macro environment in terms of temporal,social,geographical and individual provenances. The generic situation/ GS describes their micro environment in terms of the experiential,interpersonal, medium and functional relationships between communicators.

There are two kinds of exophora then, using the terminology of Communication Linguistics. In situational exophora, the presupposition is satisfied by recourse to the situation, the actual environment in which the discourse is manifested. In gnostological exophora, the presupposing signal set up in the activation of the linguistic code, is satisfied by recourse to the gnostology, where both the individual's memories of past linguistic and non-linguistic experiences, as well as his knowledge of his culture's expectations regarding these, are recorded.

Situational Exophora:

Situational exophora is a common feature of children's discourse. In my corpus, including five children's texts, such sentences as the following are typical :

1)'Give it to me'

In this sentence, if the analyst knows what activity the children are engaged in,in this situation, there is little difficulty in fulfilling the presupposition set up by the first pronoun 'it', although the presupposed is not to be found within the discourse itself. 'It' refers to a lego piece which the encoder is using to build a house. Similarly, using the situation as reference, the pronoun 'me' is used to refer to the encoder. In example one,then, there are two instances of referential situational exophora.

2)'Give me the black one'
3)'Give me the black * '

4)'You build the back door * I'm so beautiful'
5)'I wonder what the pieces are * do we have to check our eyes'

(the * indicates that some information is missing from the discourse as verbalized)

Sentences two and three resemble easily interpretable examples of endophoric nominal substitution and ellipsis,respectively. However, the presupposition cannot be satisfied by the discourse itself. Hence, these are examples of situational substitution and situational ellipsis. In both cases it is a lego piece that is referred to, once again. In examples four and five, there are no overt signals in the discourse that point to the necessity of referring to the situation to facilitate decoding.Only the experiential incongruity between the two seemingly unrelated propositions suggests that something is missing,which might be retrievable with recourse to the situation.In the first proposition of utterance four,the encoder is directing the decoder to perform a particular action.In the second, he is singing to himself about his beauty.Without recourse to the children's lego building activity in the situation,the two propositions in utterance four are not internally coherent.Example five is similar.Without knowing what has happened in the situation, that the child has changed the focus of his attention from his building activity to an eye chart within his immediate physical environment, the utterance would seem to be incoherent. Although these latter two examples do not include overt codified presupposing signals in the same way as sentences one to three do, the experiential incongruity involved, operates similarly and suggests that with recourse to the situation, interplanal coherence will result between the discourse and situation.

In conclusion, utterances one to five exemplify the various types of situational exophora that have been identified in the casual conversations within my corpus.Utterance one exemplifies situational reference,two substitution, three specific ellipsis, and four and five general ellipsis.All the examples used in this section are from children's discourse,since situational exophora is such an important marker of this diatype or register. However,it is also used in the conversation of adults.

Gnostological Exophora:

If I had cited the complete version of the second proposition in utterance five, I would have had an instance of gnostological exophora, as well as situational.The complete proposition follows:

'do we have to check our eyes <u>or something</u>'

The underlined expression signals that the interpreted message is to include information beyond that encoded in the primary predication,information that is considered to be available to the decoder in his gnostology. Actually, finding such examples of gnostological exophora in the discourse of children is somewhat misrepresentative, in that the coherence that results, between the discourse and the interlocutor's individual and shared gnostology, is not a typical feature of casual conversation among children. According to the texts within my corpus, gnostological exophora is a common characteristic of casual conversation between adults.

The signal itself 'or something', demands a different,a much more complex type of cognitive interplay, than simple reference

to some feature of the interlocutor's environment,as in situational exophora.It demands that the decoder 1) decode the proposition'do we have to check our eyes',2)check his gnostology for relevant events that are to be added to the decoding of 1),before arriving at an interpretation of the intended message that allows him to 3) respond with the appropriate polarity assent or dissent.Possibly, the reason such gnostological exophora is uncommon in the discourse of six year olds, is that,comparatively, their gnostologies are so unshaped,unsocialized and fragmented, both in their personal experience of linguistic and non-linguistic events, and in their knowledge of cultural possibilities, that to invite such gnostological interplay, would be pointless.Another possibility is, of course, that children are simply morelikely to take a situation,including possible discourse manifested therein, as it is and respond to it naturally and directly, without feeling the need to see the current situation in light of past situations.

Among adults,the use of gnostological exophora to connect the present discourse to prior conversations,saves time and discourse.If both interlocuters share a prior discourse inwhich a partcular matter was discussed, in a current discourse, there is no need to repeat what was said, but instead if it is relevant, signals can be used to include it by gnostological exophora.This device allows event 'news' to be implied without necessarily being codified, and to be given prominence(highlight) through codification. The difference between intended and interpreted messages then, can be seen in terms of a logical extension of Gregory's concepts of semological focus and prominence(cf. Gregory 1984a).The <u>intended message</u> encodes what is event'new', or prominent, and uses gnostological exophora to imply what is event'given',or shared. This 'given' information gets the experiential focus (starting point), and need not be verbalized. The <u>interpreted message</u> decodes what is actually verbalized and made prominent in the process,as well as the implied foci from reference to the gnostology.

When this type of exophora bears such interpretive significance, and depends,to a certain extent, on a shared gnostology,it proves a valuable variable with which to compare the discourses of interlocuters of varying personal relationships. According to the four adult texts in my corpus,two between adult 'friends' and two between adult 'strangers', friends are more likely to use a preponderance of gnostological exophora, than strangers, as might be expected. Of course, further research is necessary if these findings are to be substantiated.

The following four utterances exemplify uses of gnostological exophora.In each, the words underlined are used to signal the decoder to refer to his gnostology for pertinent details before arriving at an interpretation of the intended message.

6)'since Christmas we've had a new prof <u>it's</u> been really good'

7)'he's walking by as he goes 'oops' and dumps the whole thing(liquid nitrogen) all over her...he did really neat <u>things like that</u>'

8)'I took sciences all through high school and a real killer grade 13 biology / the same'

9)'yeah but it (a fireplace) doesn't work cause it's too dirty would blow up or whatever...oh yeah but he's never fixed it up or anything'

(/ mark change in encoder;() give endophoric presupposed)

The use of pronouns,personal and demonstrative,respectively,as signals of gnostological reference in examples six and seven resembles that of endophoric reference. However,in these examples there is no single presupposed, and more is implied by these signals than what is retrievable from the discourse. In utterance six ,'it' refers not only to the possession'had', of a possessed'prof', but to all the implications of this relation, of which the decoder is well aware, sharing this portion of the encoder's gnostology.'Things like that',which can also be replaced by 'stuff like that' refers not only to the actions of'walking' and 'dumping' included in utterance seven, nor to the anecdote of which these two propositions make up only a small portion, but to the whole anecdote as well as all similar anecdotes that both interlocuters have recourse to, in their gnostologies.The comparative preposition 'like' actually specifies textually, the process we all participate in,when we decode casual conversation. We refocus, ignore, amplify or extend what is actually encoded using gnostological reference, before arriving at an interpretation of what was intended. Halliday and Hasan call these uses of 'it' and 'that' extended reference.However, I feel that it is misrepresentative to give items that signal exophoric gnostological referencethe same labels that usually designate endophoric reference, without stipulating that endophora and exophora demand very different cognitive procedures. Endophora is a simple textual relation of cohesion within the discourse. Exophora is a very complex relation that gives coherence to the discourse in its situational plane or gnostological interface.

In example eight,'the same' signals a similarity in prior events experienced by both interlocutors. Again, this expression does not operate as a simple presupposing item that can be understood by recourse to a presupposed within the text. Rather, it signals that by referring to their context of shared memories,their gnostology, the interpretation that was intended can be transmitted. This can include information that was not even verbalized.The expressions 'or whatever' and 'or anything' in utterance nine act as direct indications to add relevant gnostological material before interpreting.They are general until given a context. For example, 'anything' can mean virtually anything until it is given the specific context of 'fixing things up',in which case it is used to extend the variety of action processes available, given an animate participant'he' and an inanimate patient'it' (fireplace).Similarly, 'whatever' is used to extend the interpretation of 'blowing up' to other possible actions, retrievable from the decoder's gnostology that may co-occur with the participant 'it'(fireplace) and its attribute 'too dirty'.

In examples six to nine, a word or phrase acts as a signal

to add further information from the gnostology, before interpreting the message as encoded in the discourse. 'That','it','the same', ' or whatever','or anything', have been used as signals to the decoder that operate as substitutes for two kinds of information: 1) implications of the event that is verbalized and which seem to include some sort of clausal endophoric reference,or extended reference, using Halliday and Hasan's term, or 2) analogical extensions of that event. 'That','it,' and 'the same' ,in examples six to eight signal that the former type of exophoric gnostological substitution binds the current discourse to prior discourses and situations recorded in the interlocuter's gnostology.'Or whatever' and 'or anything' in utterance nine, signal that the latter analogical type of gnostological substitution is operating.It is important to remember that none of the grammatical class implications of endophoric substitution are appropriate to the discussion of exophoric gnostological substitution. The use of the word substitution in this latter case simply refers to the presence of an item in the discourse that acts as a substitute for relevant information from the gnostology,and a signal for its retrieval.

The following utterances exemplify another type of gnostological exophora:

10)'I gotta go through a 5 year program / oh * fun'

11)'I might have to change my mind about even minoring in it if I can't pick it up because it's required and * two years to go right?'

In example ten, there is a gap in the message as verbalized (signalled by the asterisk) which is not retrievable from the discourse,or the immediate situation.However, it is retrievable from our gnostological record of prior linguistic experience.The decoder would interpret the message as 'I gotta go through a five year program / oh that will be fun'. This is an example of gnostological ellipsis, again, without the grammatical implications of endophoric ellipsis as defined by Halliday and Hasan. Ellipsis,in this case,simply refers to a gap in the verbalized message which acts as the presupposing, and to which the decoder responds by recourse to his relevant gnostology in satisfying the presupposition.In utterance eleven, the information gap occurs between the complex clause complex(cf. Gregory 1984b) and what follows the additive conjunctive link.The missing actor and process is not difficult to decode using our prior linguistic experience for reference. and the locative is accessible using our stored memories of situation.So referring to our gnostology, we would decode the second proposition as 'you have two years to go in your degree at university, right?', and then have the option of adding the implications of this, or extending it by analogy, before arriving at an interpreted message.

In gnostological exophora, whether of reference, substitution or ellipsis, an item ,or the lack of an item,in the discourse signals the decoder to refer to his gnostology for additional relevant information before interpreting the message that was intended. Adults use this form of exophora more than children, and adult friends, more than adult strangers.

Conclusions:

From my analyses of several texts of casually spoken discourse, it hasbecome clear that to describe how the interlocutors bind their propositions and the concepts therein, both internally, to the discourse itself, and externally, to past and present situations that are relevant, an analyst has to go well beyond the confines of endophoric cohesion as described by Halliday and Hasan in 1976. In this paper, I have, using the framework of Communication Linguistics and building from the foundations of Halliday and Hasan's categories of endophora, endeavoured to offer some preliminary suggestions as to how the very important feature of exophora may be described incasual conversation.

In Communication Linguistics language is described dynamically,using the three planes of experience and synoptically, using the tri-stratal realizatory code.Situation is the immediate instantial environment and source of ideational and interpersonal components of the intended message before the encoder manifests it using the linguistic code. Discourse is the activation of the code in a situation.It involves the transmission of an intended message codified by the encoder,to a listener who decodes an interpreted message. The gnostology is the interface between the planes of experience and the linguistic code in which the instantial is related to the non-instantial.Endophora is considered part of the text forming component of the linguistic code which operates intersententially. In endophora, a codified presupposing element in the discourse is satisfied by recourse to a presupposed element, also verbalized, which sets up a cohesive tie between the two. Exophora is non-cohesive, but gives coherence to the discourse within its situation. Exophora operates interplanally, in that the presupposition set up in the discourse is fulfilled by recourse to either the instantial situation or the non-instantial gnostology.Both situational and gnostological exophora can be further differentiated into situational or gnostological reference, substitution and ellipsis according to the data in my corpus.

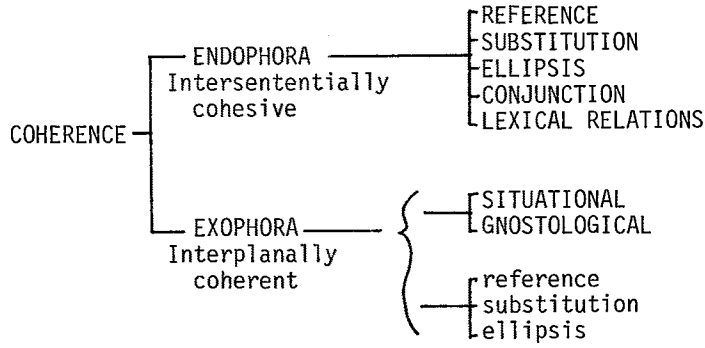

Fig.1 Coherence in Casual Conversation

The categories illustrated in figure 1, are useful in drawing distinctions between the discourses of different aged interlocuters(CCC factors), and of different personal relationships between them (GS factors) in terms of the variety and frequency of coherence feature they manifest in casual conversation. From my analyses it seems that both the cohesion that results from instances of endophora,and the coherence that results from instances of exophora, are of crucial importance in enabling speakers to discourse within this diatype. False starts, incompletions, omissions, errors and abbreviations; at times these characterize conversations that collapse, but they are also often characteristic of conversations that succeed in many senses of the term, or at least proceed. We will not be able to analyze casual conversation in an explanatory way if we regard such characteristics only as a mark of linguistic failure. The interplay between discourse and situation and gnostology must be understood if we are to come to terms with how and why communication happens.

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THE ROLE OF PROSODIES IN DISCOURSE ANALYSIS

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Neither the neogrammarians nor the structuralists entirely ignored the prosodic features of speech; but it is surely true, and regrettable, that they did not devote enough energy and ingenuity to a systematic and thorough examination. (This generalization does not apply fully to Firth and his followers--see Firth 1948 and 1957, and Palmer 1970--possibly because they do not quite fit into either of these schools. And although books on prosodies have been written in the past decades--from Pike 1947 over Garde 1968 to Halliday 1970, to cite but some examples --they do not, or not sufficiently, address themselves to the role of prosodies in the direction I shall pursue presently.) This neglect stems from the fact that the neogrammarians occupied themselves chiefly with dead languages, whose prosodic features are at best difficult of access (but see my attempt at using prosodics and metrics to discover some features of the pronunciation of Latin and the early Romance languages: Pulgram 1975), while the structuralists' analyses typically sought minimal constituent segments at various levels and thus bypassed the non-segmental prosodic features, which more often than not are not coextensive with the linear segments. (But see Harris 1944.) A stress accent, for example, even though it rests upon a vocalic phoneme, does not signal accent for that phoneme but for a whole morpheme, or lexeme, or larger unit in an utterance. And transformation grammarians, though earnestly if often futilely stalking generalities and universals, also neglected prosodies, partly because they were mainly intent upon establishing the sequence, arrangement, and hierarchy of syntactic rather than phonological units, and partly because they never quite shook off their early concern with "re-write rules". But the mere viewing of written and re-written speech does not induce its practitioner, let alone oblige him, to contemplate the function of prosodic features. Moreover, the graphic means to convey them, such as punctuation or special types and fonts, are at best vague and phonetically inadequate; certainly the blank spaces between printed lexemes may or may not coincide with phonological boundaries, be they prosodic or other. No wonder, then, that transformationists in most of their work found little incentive and few occasions to deal systematically with prosodies.

This lack of involvement is illustrated by the following argument (in Chomsky 1977, 30):[1]

(1) "Beavers build dams

is true, but does not imply that beavers build all dams, only that

beavers are dam-builders; dam-building is characteristic of the species [more precisely, genus]. But

(2) Dams are built by beavers

is, I think, naturally understood to imply that all dams are built by beavers and is thus false."

This is indeed so--if one reads (1) and (2) with a sentence accent on the final words, DAMS and BEAVERS, an accentuation that, in English, one may call unmarked since it is common and expected;[2] it occurs here in answer to the questions, posed or implied, "What do beavers do?" and "By what animals are dams built?", respectively. But if one stresses the first lexeme in either sentence--and this may be called the marked sentence accent--(1) becomes

(3) BEAVERS build dams,

which says that beavers rather than, say, otters build dams, answering the question "What animals build dams?", whereas sentence (2), now

(4) DAMS are built by beavers

says that dams, not burrows, are built by beavers, answering the question "What is built by beavers?". While (3) still refers to the dam-building disposition of beavers without implying that all dams are built by beavers, and is therefore still true, (4) does not imply, as distinct from (2), that all dams are built by beavers, and is therefore true also. Clearly, then, the shift of the sentence accent has, without syntactic restructuring (or, if you prefer, without transformation) created a new meaning.

Other languages may, and some have to, employ means other than the mere relocating of the sentence accent, in order to achieve the difference in meaning between (1) and (3), and between (2) and (4). French, for example, is a language in which the place of the accent in the cursus (my term: see Pulgram 1970; also referred to by others as the phonological word, or, infelicitously, as breath group) is fixed on the last vowel of the final lexeme--save [ə], unless that vowel stands in an imperative phrase of the type Regardez-le! 'Look at him/it!'. Thus the final lexeme bears, as in (1), an unmarked accent; but in addition, French does not allow the setting of any accent, marked or unmarked (except the accent d'insistance: see fn. 4), anywhere else in the cursus. Hence to obtain a truly marked sentence accent, syntactic restructuring must take place. Accordingly, (1) to (4) are rendered in French by (5) to (8). (Note that part of the specification of generality is attained in French, as distinct from English, by the use of the singular rather than the plural in the noun, and of the definite rather than the indefinite article.)

(5) Le castor construit des BARRAGES. (True)

(6) Les barrages sont construits par le CASTOR. (False)

(7) C'est le CASTOR # qui construit des BARRAGES. Literally 'It is the BEAVER that builds DAMS.' (True)

(8) Des BARRAGES # c'est ce qui est construit par le CASTOR. Literally, 'DAMS, that's what is built by BEAVERS.' (True)[3]

But since in French the passive construction is felt to be awkward, or at least inelegant, (6) and (8) might be shunned by fastidious speakers, unless the passiveness of the event were to be especially emphasized. (The equivalent sentences of (6) and (8) in the active voice, with the proper marked accent in the latter, are, respectively: Le castor construit des BARRAGES, and Des BARRAGES # c'est ce que construit le CASTOR.)

One may of course suggest that the accentually unmarked final lexeme of an English or a French sentence could be articulated with greater than ordinary and expected energy, thus assigning accentual markedness to it. This is true, and the device is employed in English, even though in the course of conversation it may at times be difficult for the hearer to ascertain whether the ordinary unmarked or the special marked accent is conveyed by the speaker. In French, however, syntactic restructuring as in (7) and (8) is preferred overwhelmingly if not exclusively, probably because the cursus-final syllable bears obligatorily the greatest stress, which makes it even more difficult than in English to distinguish ordinary from special stress. Hence the English sentence (9) will almost invariably be rendered in French by (a) rather than (b).

(9) I am interested in BEAVERS [not otters]. (a) C'est au CASTOR # que je m'intéresse. (b) Je m'intéresse au CASTOR.[4]

Sentences (7), (8), and (9a) actually consist of two cursus that are separated by the usual cursus-boundary, a pause (or, if you prefer, open juncture), transcribed by the double-cross. The lexemes terminating the first cursus are accordingly in an inherently unmarked accentual position; what makes their accent a marked one is that in addition to being cursus-final they are also sentence-medial and therefore carry a non-terminal rising rather than a terminal falling intonation. Thus it is the combination of two prosodic properties, stress and pitch, that clearly establishes these lexemes as bearers of the marked sentence accent.

Another device for approximating in French the prosodic signals in (3) and (4), and (7) and (8), but with a slightly different semantic nuance as indicated in the English translations, is represented by the following.

(10) Le CASTOR # il construit des BARRAGES. 'BEAVERS, they build DAMS.'

(11) Il construit des BARRAGES # le CASTOR. 'They build DAMS, beavers do.'

Both (10) and (11) are quite common in colloquial French. Prosodically, with the marked lexeme in cursus-final but sentence-medial position, they correspond to (7) and (8); but in addition, the subject of each sentence is signaled twice: once as a noun, le castor, once as pronoun, il.

Sentence (11) has occasioned the opinion that, since the "real" subject, castor, is preceded by the verb construit, it is demonstrated that Colloquial French, at least, does not adhere to the word order subject--verb (--object) which is customarily regarded as characterizing French syntax: so Bossong 1981. (For

a similar suggestion see Harris 1978. In the discussion that follows I continue to use my beaver-and-dam example rather than one of Bossong's illustrations.) In Bossong's analysis, the obligatory pronoun il is treated, not as subject, but as a prefixed inflexional morpheme of the third person singular, equivalent to the final -t in Latin construit 'he builds'. The appearance of preverbal (and also prenominal) lexemes or phrases replacing functionally the inflexional suffixes of the older Indo-European languages like Sanskrit, Greek, Latin, etc., is a pervasive phenomenon commonly referred to as a shift from synthetic to analytic constructs (see Pulgram 1963), or from post-determination to pre-determination (see Pulgram 1984b, with pertinent references). If (I am inclined to say: when) this process is completed throughout the morphology of Indo-European, then this family of languages will have undergone a remarkable typological restructuring in that it will have acquired prefixed instead of the original suffixed inflexional morphemes. (See Pulgram 1967, Geisler 1982). That is, then, the status assigned to il in il construit in (11). Accordingly it is said that this sentence contains both a "syntagme nominal indépendant", le castor, and a "grammème coréférentiel lié au verbe", il. (Bossong 1981, 240.) No doubt the il in the present sentence can be so regarded; but since one can also say il le construit 'he builds it', it is perhaps premature to deny pronominal status to it altogether. And just because le castor is the "real", semantic subject, il is no less the grammatical subject of construit: the domain of semantic reality, the circumstances of the real world, are irrelevant in grammatical analysis. (That is why I remarked--see Pulgram 1980, 9-11--that the famous "Colorless green ideas sleep furiously", and Lewis Carroll's jabberwocky, though non-sense, are not ungrammatical.)

But whatever one's preferred syntactic analysis of (11), at one point of Bossong's argument I should like to insert a correction arising from my concern with the proper appreciation of prosodic features. Bossong does say that a sentence of type (11) has "deux (ou plus) sommets intonationnels et/ou accentuels", but he assigns these summits to "une même phrase" (Bossong 1981, 244.) My contention is, rather, that not one "phrase" but two "phrases" must be reckoned with on phonological grounds, that is two cursus separated by a pause. The first cursus contains the normal sequence of (pronominal) subject--verb--object, and the second merely repeats, it echoes, as it were, the subject: thereby BARRAGES achieves its emphatic (cursus-final, sentence-medial) position; in addition, the grammatical subject il is, so to speak, fleshed out. I see, then--at least in this construction--no indication of a reordering of the SVO order in French.[5] All this appears to bear out my notion of the priority or dominance of the prosodic over the syntactic structure in French: it is the prosodic requirement inherent in the French cursus that may force a syntactic restructuring so as to achieve a marked accentuation.

Each of the following sentences as printed can be articulated

in more than one prosodic way, resulting in different meanings without alteration of syntactic structure. I will note, however, that prosodic features are not in some way "added" to what is printed, that they "disambiguate" an ambiguous text; they are just there, inherent in and essential to speech. Though the shortcomings of the written text may be, and sometimes (especially in historical linguistics) must be of interest to the linguist, what he ultimately has to analyze is the spoken and heard utterance (actual or as he presumes it to have been).

(12) Thieves like us.

This was the title of a film and presumably the intended reading is 'Thieves like US' rather than 'Thieves LIKE us'.

(13) A good drink if you are thirsty.

This is an advertisement which requires, in view of its purpose, the reading 'A GOOD drink if you are THIRSTY'. But another, mischievous reading might be 'A good drink IF you are THIRSTY [but if you are not it tastes awful]'.

(14) All the chicken you can eat for $1.95.

This is another advertisement, with an intended sentence accent on the price. But if a marked accent is put on CAN, one might infer that, having reached $1.95 worth, you will want to eat no more of that chicken.

(15) No smoking area available.

This sign in the window of a restaurant is no doubt to be read 'NO-smoking area [for non-smokers] available' rather than 'No SMOKING area [for smokers] available'.

(16) Medical school allowed to keep burning cadavers.

In this newspaper headline, keep may be interpreted to mean either 'continue' or 'retain'; if the first, the reading is '...keep BURNING...', if the second, one reads '...KEEP burning...'.

(17) There is an interesting book about TG.

If the first word has existential meaning, it is unaccented, if it is demonstrative, one will have to read 'THERE is...'[6]

In the following examples, clues to proper prosodic articulation are provided graphically. Presumably, then, they will not be regarded as "ambiguous" even by syntacticians prone to overlook prosodies; but in essence they are no different from (12) to (17).

(18) Have a drink! Have a drink?

Actually, the question is ambiguous since it can mean either 'Will you have a drink?' or 'Have you had a drink?'

(19) He speaks Italian. Parla italiano. He speaks Italian? Parla italiano?

In both English and Italian, a statement can be converted into a question by prosodic means alone. But while in English the construction with an auxiliary--Does he speak Italian?--is also available, in Italian no such manner of asking a question exists, although the interrogative character can be enhanced by a preposited È vero che... 'Is it true that...' or by a postposited ...nevvero? '...doesn't he?', the latter with an implied slight expectation of a positive answer (like German nicht wahr?, French n'est-ce pas'). In French, beside intonation

variation--Il parle italien/Il parle italien?--two syntactic conversions to questions are available, either subject-verb inversion, Parle-t-il italien? or a preposited phrase, Est-ce qu'il parle italien? But it should be noted that wherever the question is signaled either lexically or syntactically, prosodic differentiation, normally achieved by rising intonation, may be omitted, so that the last two questions may be articulated with the prosodic features of a plain statement, as may indeed also English Does he speak Italian? Hence sentences containing both a syntactic and prosodic signal for question are marked redundantly. (On redundancy see Pulgram 1984a.)

(20) I am reluctant, to be honest. I am reluctant to be honest.

The comma, which distinguishes the two sentences graphically, may be articulated, so to speak, as a pause, and the preceding adjective may be made to bear a marked sentence accent, RELUCTANT. But the two sentences can in fact be pronounced homophonously (and are therefore possible examples in the series beginning with (22), below).

(21) You are all most cordially invited. You are almost cordially invited.

Common sense so overwhelmingly favors the first reading that a speaker can afford not to distinguish all most from almost--which is in fact the way I heard it.

In a third group of examples I shall finally cite sentences which are ambiguous virtually beyond repair by prosodic means. These are, then, homophonous phrases and sentences, in essence no different from homophonous--though orthographically distinct--lexemes like might/mite, symbol/cymbal, see/sea/[Holy] See/[the letter] c, bow/bough, serf/surf, etc.

(22) Nothing is too good for him.

(23) Flying planes can be dangerous.

If can were not a modal verb lacking final -s of the third person singular, Flying planes cans be dangerous would provide a morphological clarification. But there is a possible FLYING [rather than grounded] planes can be dangerous.

(24) HELFT DEN ARMEN VÖGELN.

This notice printed in capitals, posted during the winter in a park in Vienna, remains prosodically ambiguous although a typographical change creates a distinction: Helft den armen Vögeln 'Help the poor birds', vs. Helft den Armen vögeln 'Help the poor (people) to fuck'.

(25) L'ho visto uccidere.

Prosodically undistinguishable, this Italian sentence means either 'I saw him kill' or 'I saw him getting killed'.

(26) Why don't you sit down?

This is either a question or an invitation, though in the second sense one may omit the question mark. Interrogative intonation may be omitted in either sense since there is the interrogative why. (See the remark under (19), above.)

(27) They are all wrong.

This means either that they all are wrong, or, colloquially,

that they are completely wrong, both with the same prosodic features.

(28) This is an extraordinary if not untenable theory.

In this sentence the theory, though extraordinary, is not untenable, or else the theory is extraordinary and probably also untenable.

(29) John loves Mary more than anyone.

Either John loves Mary more than anyone does, or John loves Mary more than he does anyone.

No doubt the inventory and distribution of the prosodies discussed so far are, like inventory and distribution of segmental phonemes, language-specific for the most part. But some prosodic traits seem to have a fair prospect of being universal. For example, could it be the case that the rise in intonation and suspension of pitch at a higher level at a point that marks a syntactic terminal of an utterance, signals a question by conveying to the listener that, though a syntactic end is reached, a continuation from his side, that is, an answer, is expected? Conversely, does syntactic termination combined with drop in pitch signal a conclusion with no invitation to the interlocutor to start talking in turn? Excluded from this intonational device are, as already noted, questions that contain question words--and is that exclusion universal also? Is a change in the amount of energy expended by the speaker--usually, but not exclusively, an increase rather than a decrease, that is, higher rather than lower as regards both stress and pitch--a universal sign of emphasis? Is there a likelihood of universality in the prosodic signaling accomplished by larger vocal gestures which speakers, notably actors on the stage, employ to imbue the sentences they pronounce with joy, pain, grief, sarcasm, irony, contempt, disbelief, sadness, etc.? Are such vocal expressions of emotions and attitudes as universal among humans as are smiles and tears? I am well aware that in this domain I have only questions to pose. Yet who but the linguist can and ought to give the answers? But ultimately these larger problems must be preceded, I believe, by far more intensive research on language-specific prosodies than linguists have engaged in till now.

NOTES

[1]I am using here a typography different from that of the original so that I can number examples consecutively.

[2]I shall henceforth use capital letters to signal the unmarked, and underlined capitals--DAMS, BEAVERS--for the marked, emphatic sentence accent.

[3]On the double-cross, #, as cursus boundary, see below.

[4]A French cursus may contain a non-final so-called accent d'insistance which by the fact that it is not placed lexeme-finally (where the accent rests on a French lexeme in isolation, be it as a one-lexeme cursus or as citation form) indicates its quasi extra-structural, stylistic status: J'ai observé ce matin un épOUvantable ACCIDENT, can be rendered by 'I witnessed this morning a frIghtful ACCIDENT'. In English, as distinct from French, only a normally stressed syllable in the lexeme may bear an emphatic stress, hence frightfUl is impossible.

[5]As Bossong 1981, 245-47 further points out, not only the subject (castor in my example) may be affected by this type of structuring, but also the direct object (I shall now use and translate some of Bossong's examples but add the double-cross to mark cursus boundaries): Tout le MARAIS # on l'a battu # porte après PORTE 'The entire Marais, they scoured it from door to door'; On l'avait même PAS # le SOU 'They (or: we) didn't have it, not one sou'; the indirect object: MOI # il me semble PAS # qu'il le fasse EXPRÈS 'Myself, it doesn't seem to me that he does it on purpose'; ... je ne leur avait rien dit # aux ALLEMANDS (actually, to get the desired emphatic ALLEMANDS, it would have been better to reverse the order of the two cursus) 'I hadn't told them anything, those Germans'. In all these, as in (11), the principal cursus has the order SVO; the other, shorter cursus merely serves to put one or the other part of speech into emphatic, marked position.

[6]I take this example from Breivik 1981, who, though presenting an essentially transformational and syntactic treatment of existential there, does say (7) that "segmental and suprasegmental features often contribute to the identification of the two there's." True enough as regards segmentals: while existential there may be pronounced either /ðə/ or /ðɛə̯/--not, by the way, bivocalic /ðɛə/, as Breivik has it--, demonstrative

there is always /ðɛə/; but prosodically the latter bears always a marked accent and a special intonation. Breivik betrays his transformational bias by somehow playing down the non-syntactic part of the argument, not only by assigning mere potentiality to prosodies, but also by remarking (7) that "it is only [N.B.] the overt distinction between [existential] there_1 and [demonstrative] there_2 that is neutralized" in the example cited, and that "the surface string [of 17] has two underlying structures". The overt, the surface, is all the linguist can operate with, and the "underlying structures" are but underlaid, unsaid and unheard paraphrases. Once articulated in either of two prosodic ways, sentence (17) is no more "ambiguous" than is He has the lead, or He made a bow, or What caused those tears?, etc. (See my statement just before (12), above.)

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SLANG: VARIATIONS IN DICTIONARY LABELING PRACTICES

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The basic problem of slang lexicology--the problem of definition--is clearly stated by James B. McMillan in his overview article "Lexicology 1942-1973": "Until slang can be objectively identified and segregated or until more precise subcategories replace the catchall label SLANG, little can be done to analyze linguistically this kind of lexis, or to study its historical change, or to account for it in sociolinguistic and psycholinguistic contexts." (146) This paper explores just one part of the problem as pinpointed by McMillan--the use of the word slang as a label in dictionaries. It takes its subtitle and methodology from a study presented by Virginia McDavid at the International Conference on Lexicography in English in 1972. In five dictionaries published between 1963 and 1970, McDavid checked the labels of eighty-eight items often mentioned as usage problems. Not unexpectedly, she found discrepancies within and among the dictionaries sampled. But McDavid's study is not helpful as far as the label slang is concerned, for in only two items, busted 'bankrupt' and leave 'allow', was the usage problem identified in any dictionary as slang. This study is narrower than McDavid's, focusing only on lexical items which might reasonably be expected to bear the label slang.

I selected fifty items from among words cited in textbooks and essays as examples of slang and from my collection of UNC-CH college slang. All of them are listed in the 1975 edition of The Dictionary of American Slang. Then I checked their entries in Webster's Third and its supplement, in five desk dictionaries published 1975-83, and in three collections of new words published since 1973.

W3 Webster's Third New International Dictionary, 1961.
S 6,000 Words: A Supplement to Webster's Third New International Dictionary, 1976.
RH Random House Dictionary, 1975.
WNW Webster's New World Dictionary, 1980.
OAD Oxford American Dictionary, 1980.
AHD2 American Heritage Dictionary, 1982.
W9 Webster's Ninth New Collegiate Dictionary, 1983.
B73 The Barnhart Dictionary of New English since 1963, 1973.
B80 The Second Barnhart Dictionary of New English, 1980.
M82 The Morrow Book of New Words, 1982.

Despite the lack of a satisfactory definition of the term by either linguists or lexicographers, slang is a label in all of the dictionaries consulted in this study. The explanation of just what the label slang means and of its relationship to other labels, however, varies widely. W3 and W9, the dictionaries published by the Merriam Co. of Springfield, MA, use slang as one of three stylistic status labels, along with substandard and nonstandard. The prefatory matter of both of these dictionaries, though, warns that there is no objective test for slang. RH does not give an inventory of the labels it uses, but a prefatory essay on "Usage, Dialects, and Functional Varieties" by Raven McDavid does devote one-half column of four to a discussion of slang. Although WNW contrasts slang with colloquial in its labels, an essay by Charlton Laird cautions about the difficulty of isolating such categories. The OAD uses more proscriptive labels--contemptuous, informal, slang, and old use--stating "The label slang indicates that the entry word (or one of its meanings) is to be avoided except in extremely informal circumstances." In AHD2 the label slang indicates "a style of language rather than a level of formality or cultivation" and is one of six stylistic labels along with nonstandard, informal, vulgar, obscene, and offensive. The two editions of The Barnhart Dictionary of New English use only the label slang, and The Morrow Book of New Words uses both slang and colloquial but makes no clear distinction between them.

The table below shows the composite distribution of labels for the fifty lexical items.

DICTIONARY LABELS FOR 50 ITEMS OF SLANG

ITEM	W3(S)	RH	WNW	OAD	AHD2	W9	B73	B80	M82
NOT RECORDED	10	17	11	17	10	8	34	43	34
NO LABEL	30	2	3	4	6	35	3		3
SLANG	10	24	30	22	27	6	13	7	4
INFORMAL		6		5	7				
COLLOQUIAL			6						6
OTHER		1		2		1			3

Clearly, the Merriam dictionaries more readily classify lexical items as belonging to the general, unremarkable vocabulary of English than do the other four dictionaries. The Barnhart books of new words also favor a simple labeling scheme. RH, OAD, and AHD2 distinguish between slang and informal, whereas WNW and M82 make the distinction between slang and colloquial. No dictionary uses both informal and colloquial.

Labels for individual items are tabulated in the Appendix.

Of the fifty terms, four are either too recent or too limited in circulation to be included in any of the reference works sampled: bag 'quit, be absent', hammer 'attractive woman', haul ass 'leave', wasted 'physically or emotionally exhausted'.

Only six of the fifty are labeled slang in all the sources in which they appear: boss 'excellent', bread 'money', ice 'diamonds', ralph 'vomit', schmo 'oaf', toke 'drag on a marijuana cigarette'. Bread and schmo seem the most firmly entrenched as slang, carrying that label in all six dictionaries. In contrast, ralph is recorded only in AHD2. Its synonym barf is labeled slang in three dictionaries and in one new word book but not labeled in W3S or W9.

Almost half (twenty-one) of the fifty items are either labeled slang or not labeled at all: ace 'the grade A', barf 'vomit', beat it 'leave', bitch 'complain', boogie 'dance', dig 'understand', frisk 'search', guts 'courage', lush 'drunkard', Mickey Mouse 'childish, easy', mooch 'beg, cadge', narc 'narcotics agent', polluted 'drunk', pot 'marijuana', put down 'criticize', rip off 'steal', solid 'great', streak 'run naked', zap 'kill, defeat', zilch 'zero', zip 'zero'. In this group thirty-one of the forty-one entries which bear no labels are found in W3(S) and W9. For eleven lexical items, the treatment in W3(S) and W9 is the same. Bitch, dig, and pot, however, are slang in W3(S) but not labeled in W9. Narc is the reverse, unlabeled in W3(S) and slang in W9. Beat it, guts, mooch, put down, rip off, zap, and zilch are unlabeled in both W3 and W9 but designated slang in the other four general dictionaries. Frisk is slang only in WNW.

Another five of the fifty form a group because of their treatment in M82. Bummer 'bad experience', jock 'athlete', pad 'apartment, home', rap 'converse', and wimp 'weak, boring person' are all labeled colloquial in M82. Except for pad, which is slang in W3, these are unlabeled in W3(S)and W9 and designated slang in every other entry.

The greatest range of variation is shown by the labels attached to booze 'alcoholic beverage', flop 'failure', hack 'tolerate, cope', laid back 'relaxed', pissed off 'angry', screwed 'swindled', and uptight 'tense'. Six of these seven are unlabeled in W3(S) and W9 but show a mixture of labels elsewhere. Booze, for example, is informal in RH and OAD, colloquial in WNW, and slang in AHD2. Pissed off is slang in W3 and RH, designated "sometimes vulgar" in W9, and not recorded at all in the rest.

The final group do not carry the label slang in any of the works consulted. Chow down 'eat' occurs only in W9, where it bears no label. Macho 'virile' is either unlabeled or designated Spanish. Clout 'influence, power', gyp 'swindle', hick 'countrified person', plug 'advertize', and workaholic 'compulsive worker' carry no labels in W3(S)and W9, are informal in RH, OAD, and AHD2, and are colloquial in WNW.

In summary, the policy of W3 and W9 not to label words of widespread and current use like mooch, put down, and uptight

acknowledges that such lexical items are ordinary language. Yet the absence of a label for such words fails to suggest the nuances signalled by the diction in a sentence like *They were bitching because those macho jocks ripped off the booze* , no words of which bear a label in *W9*. The other dictionaries attempt to alert the user by marking more words and by using more labels, but with no clear explanation of the criteria for their assignment. Thus, this limited dictionary exercise merely confirms the difficulty of categorizing by a system of labels lexical items like these fifty whose unselfconscious use often depends on attitudinal and situational factors.

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Appendix

0 = not recorded -- = no label s = slang
Inf = informal Coll = colloquial

	W3(S)	RH	WNW	OAD	AHD2	W9	B73	B80	M82
I.									
bag 'quit, be absent'	0	0	0	0	0	0	0	0	0
hammer 'attractive woman'	0	0	0	0	0	0	0	0	0
haul ass 'leave'	0	0	0	0	0	0	0	0	0
wasted 'exhausted'	0	0	0	0	0	0	0	0	0
II.									
boss 'excellent'	S	S	S	0	S	S	0	0	0
bread 'money'	S	S	S	S	S	S	S	0	0
ice 'diamonds'	S	0	S	0	S	S	0	0	0
ralph 'vomit'	0	0	0	0	S	0	0	0	0
schmo 'oaf'	S	U.S.S	S	S	S	S	0	0	0
toke 'drag on a marijuana cigarette'	S	0	S	S	S	S	U.S.S	U.S.S	0
III.								US coll	
ace 'the grade A'	0	0	0	0	-	-	0	S	0

barf 'vomit'	-	S	S	0	S	-	US S	0	0
beat it 'leave'	-	S	S	S	S	-	0	0	0
bitch 'complain'	S	S	S	S	S	-	0	0	0
boogie 'dance'	0	0	0	0	0	-	0	S	0
dig 'understand'	S	S	S	S	S	-	0	0	0
frisk 'search'	-	-	S	-	-	-	0	0	0
guts 'courage'	-	S	S	S	S	-	0	0	0
lush 'drunkard'	-	S	S	S	-	-	0	0	0
Mickey Mouse 'childish, easy'	-	0	S	0	0	-	Mil/Stu S	0	S
mooch 'beg, cadge'	-	S	S	S	S	-	0	0	0
narc 'narcotics agent'	-	0	S	S	S	S	US S	0	S
polluted 'drunk'	-	S	0	0	0	0	0	0	0
pot 'marijuana'	S	S	S	S	S	-	0	0	0
put down 'criticize'	-	S	S	S	S	-	S	0	-
rip off 'steal'	-	S	S	S	S	-	US S	0	S/Coll
solid 'great'	-	S	S	0	0	0	0	0	0

streak 'run naked'	0	-	-	-	-	0	0	S	-
zap 'kill, defeat'	-	S	S	S	S	-	US S	0	0
zilch 'zero'	-	S	S	S	S	-	US S	0	S
zip 'zero'	0	S	S	S	S	-	0	US S	0
IV.									
bummer 'bad experience'	-	S	S	S	S	-	US S	0	Coll
jock 'athlete'	-	S	S	S	S	-	US S	0	Coll
pad 'apartment, home'	S	S	S	S	S	-	0	0	Coll
rap 'converse'	-	S	S	S	S	-	US S	0	Coll
wimp 'weak, boring person'	-	0	S	0	S	-	0	US/Can S	Coll
V.									
booze 'alcohol'	-	Inf	Coll	Inf	S	-	0	0	0
flop 'failure'	-	Inf	Coll	S	Inf	-	0	0	0
hack 'tolerate, cope'	-	0	S	S	Inf	-	0	0	0
laid back 'relaxed'	-	0	S	0	Inf	-	0	S	S
pissed off 'angry'	S	S	0	0	0	sometimes vulgar	0	0	0

				vulgar					
screwed 'swindled'	-	0	0	S	S	-	0	0	0
uptight 'tense'	-	S	S	Inf	S	-	S	0	S/Coll
VI.									
chow down 'eat'	0	0	0	0	0	-	0	0	0
clout 'influence, power'	-	Inf	Coll	-	Inf	-	-	0	Coll
gyp 'swindle'	-	Inf	Coll	Inf	Inf	-	0	0	0
hick 'countrified person'	-	Inf	Coll		Inf	-	0	0	0
macho 'virile'	-	Mex Span.	-	-	-	-	-	0	Span
plug 'advertize'	-	Inf	Coll	Inf	Inf	-	0	0	0
workaholic 'compulsive worker'	-	0	-	Inf	-	-	-	0	-

SEMANTICS - SYNTACTICS - PRAGMATICS: A NEW LOOK AT AN OLD DISTINCTION

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I should like to preface my remarks by citing a warning uttered by Hugo Schuchardt about a century ago: Terminological uncertainties, Schuchardt remarked, have the same effect on research as fog has on shipping. They are the more dangerous, he added, as people are usually unaware of their existence.

Terminology, of course, serves the purpose of classifying, of distinguishing one kind of thing from another, in our thinking and in communication. Complete consistency and interpersonal agreement in the use of classificatory labels-- and here we are concerned with technical terminology, chiefly within the field of linguistics-- may well be impossible. Even though a certain amount of polysemy is unavoidable, I take the position that the less we have of it, the better we are off, for scholarly advancement. Where multiple use of a term impairs mutual understanding or clear thought, we should either drop that term, or shift some of its load to another term, or, at the least, consistently add modifiers to the term in question, to clarify which sense is intended.

From this vantagepoint, let us have a look at the three related terms, semantics, syntax (or syntactics), and pragmatics; the first and second of which are quite generally bandied about in linguistic discourse, the third one (pragmatics) being a relative newcomer to linguistics. By the way, when I say linguistic discourse, as I just did, I mean discourse relating to linguistics as a discipline or professional activity-- not verbal discourse as against some kind of nonverbal discourse if there were any. Which brings up a point I have been concerned about for many years, and which precisely illustrates the dangers that Schuchardt warned against:

The use of the adjective linguistic to relate both to linguistics and to language creates unnecessary confusion quite unworthy of linguists. Repeatedly I have proposed, and I take this opportunity to propose again, that the form linguistic be used only in the sense of 'pertaining to linguistics', and that the sense of 'pertaining to language' be shifted to the adjective lingual; the use of which in this sense is already well-established in such derivations as bilingual and interlingual.[2] Thus, if we read in a "pragmatics" textbook published last year that "there is a very substantial gap between current linguistic theories of language and accounts of linguistic communication,"[3] wouldn't we be better off to rephrase this: there is a gap between linguistic theories of language and accounts of lingual

communication?

I have already hinted that this paper deals with definitions of semantics, syntax (or syntactics), and pragmatics chiefly in the context of linguistics. I have dealt with the question of the scope of linguistics elsewhere.[4] Of course there is an inter-dependence between the shifting definition of linguistics and the meanings of semantics, syntax, pragmatics as possible labels of subdivisions of our science. Is pragmatics part of linguistics proper? What constitutes linguistic semantics? Actually the notion of semantics-syntactics- pragmatics as a package, a tri-partite unit, is tied in the first place to "semiotics," the general theory of signs, as proposed by the philosopher Charles Morris; of which more in a minute. Unfortunately, "semiotics" itself is one of the most ill-defined fields in scholardom today.[5]

Of the three terms that we are primarily concerned with here, syntax is the oldest; and I think its definition poses less problems than that of the other two. (Syntactics, by the way, the analogic extension thought up by Morris within the context of his semiotics, is not likely to displace the well-rooted older form.[6]) The Greek word σύνταξις, 'construction' or 'composition', was apparently first used in a grammatical sense by Apollonius Dyskolos of Alexandria, in the second century A.D., to refer to combinatorial rules, or constraints-- not only for combining words into sentences, but also for putting together phonemes into syllables, syllables into words, word senses or concepts into complex semantic units.[7] Anyway, syntax-- whatever theories may be involved-- has to do with combinatorial rules, within natural languages; and from natural languages the term may be metaphorically extended to other sign or symbol systems permitting complex combinations, such as music, scripts, motion pictures, mathematical symbols. Actually, I think, the word syntax is rather consistently used in this sense, and there is little room for misunderstanding.

Except for one thing: does syntax deal only with "forms," or also with "meanings"? Does it or does it not overlap with "semantics"? I will postpone answering this question more fully until we get to current usage as regards the label semantics. But in principle, I would say this: The forms dealt with in syntax-- auditory, visual, or whatever-- are never devoid of some meaning or function. Wherever there are combinatorial constraints, or rules, these exist because different combinations serve different functions or communicative purposes; combinations that carry no "meaning" (in the broadest sense) are simply not permitted. The question, then, is merely whether in a syntactic description one makes the meanings of the involved "forms" (including contrastive orderings as such) explicit or not. There are those who, like Stephen Ullmann,[8] have tried to divide up syntax into "syntactic morphology" (formal devices for conveying relations, such as intonation, word order, morphophonemic variation, inflexion, separate particles) and "syntactic

semantics" (the meanings of parts of speech, sentence parts, grammatical categories). But even extreme Bloomfieldians, trying to do syntactic morphology without syntactic (let alone lexical) semantics, have had to allude to "differential meaning," at the least.

The study of word meanings is necessarily as old or older than the study of grammatical structure. The term semasiology, or rather, in German, Semasiologie, first shows up in lectures on Latin by Christian Karl Reisig in the 1820's, to refer to the study of lexical meanings, largely from a historical point of view; it has been little used since the 1930's, but is still available in lieu of lexical semantics. The label semantics, or rather, in French, sémantique, was first proposed by Michel Bréal to designate a separate branch of linguistics dealing with changes in word meanings. Through his Essai de sémantique, 1897, soon translated into English, this term slowly gained international currency. In 1920, the Polish ethnologist Malinowski adopted the word in a broader sense; and perhaps through him, it drifted into a circle of Polish logicians. In 1922, the Polish mathematician Leon Chwistek, in an article of his published in German, proposed the label Semantik for an area within logic having to do with the verification of scientific statements. Other Polish logicians such as Tarski followed suit; and in 1935, at the International Congress of Scientific Philosophy in Paris, it further spread to non-Polish philosophers-- including one Charles Morris from the United States, and through the latter to the Viennese "logical positivist" Rudolf Carnap (who had joined Morris at the University of Chicago).

Still another native of Poland was to adopt the word semantics in a novel sense, neither linguistic nor logistic: Alfred Korzybski. Korzybski, a mathematician who had moved to the United States in the early 1920's, and who soon began to work out and promote his philosophy cautioning against the distorting effects of language habits upon thought, picked up the term semantics at a mathematics congress in Warsaw in 1929, to suggest ways for making our thinking more precise and realistic. When Korzybski published his major work Science and Sanity in 1933, the so-called "general semantics" movement was born. As a would-be reformer of distorting language habits Korzybski had been preceded by, among others, Ogden and Richards, who as coauthors of The meaning of meaning (1923) had proposed a "science of symbolism" rather than "semantics"; by Lady Welby, who in England had launched her "significs" movement; and by the late 19th-century American philosopher Charles Peirce, the founder of so-called "pragmatism," who had coined the label semiotic as a quasi-synonym of logic. As far as semantics is concerned, it is in the sense of Korzybskian general semantics much more than in a linguistic or analytic-philosophical sense that this term has gained considerable currency, since the 1930's among the general lay public and even in some academic

circles (Education, Speech), chiefly in the United States.[10]

Thus, at mid-century, we have at least three kinds of "semantics": lexical semantics in the context of linguistics (where the early historical emphasis had given way to the more synchronic concerns of "structural" semantics, etc.); semantics in the logical-philosophical sense; and the general semantics of the Korzybski school. To add to the confusion, in popular usage the word semantics is now often used in a disparaging sense to mean something like verbal sleight-in-hand, or else a "mere" quibbling about words.[11] As regards the phrase general semantics, sometimes this does not refer to the Korzybskian language reform movement, but to general theory within linguistic or logico-philosophical semantics.[12] As linguists, of course, we are primarily concerned with what semantics (or syntax, or pragmatics, for that matter) means within linguistics; but we have to heed influences coming from another direction.

The principal such influence in linguistic semantics, over the past twenty years or so, has of course been from the direction of logic and the philosophy of language. Other than that, in the 1940's and fifties the new label of ethnosemantics, under the influence of cultural anthropology, signaled a blurring of the distinction between lexical and syntactic semantics (Whorf!) and a broadened consideration of nonverbal cultural contexts. In England, Firth and his London school extended the meaning of semantics into phonetics-phonemics. Work in "structural" lexical semantics, inspired by de Saussure etc., continued chiefly in Western Europe. Another new label, semology, used by Joos and later by the stratificationalists, has not made much headway.

Let us step back into the 1930's: At that time Charles Morris, trained in the pragmatism going back to Charles Peirce and leaning toward behavioristic psychology, was working out his semiotic, or general theory of signs, which would provide a foundation for a "unified science" movement. Peirce had proposed a semiotic divided into "critical logic," "pure grammar," and "pure rhetoric." Reinterpreting this somewhat, Morris divided his semiotics into "semantics" (the term he borrowed from linguistics via the Polish logicians), "syntactics" (essentially also a linguistic term), and "pragmatics" (a term harkening back to Peirce's "pragmatism"). Semantics, according to Morris, would study signs in their relation to applicable objects, referents; syntactics would deal with the relations between combinable signs; and pragmatics was to study the relations between signs and their users or interpreters (or, in a later formulation, "the origin, uses, and effects of signs within the behavior in which they occur."[13] (How far this division is applicable not only to "artificial" signs, such as languages qua communication systems, but also to so-called "natural" signs or symptoms, I propose to discuss in a separate paper.) Linguistics was to be fitted into this

scheme, but few linguists paid attention. The division into semantics and syntactics or syntax sounded familiar enough; but what about a separate pragmatics?[14] Rudolf Carnap, who promptly picked up the Morris terminology and who wrote an Introduction to syntax followed by an Introduction to semantics (both books dealing essentially with artificially constructed metalanguages aimed at scientific statements), ultimately defined pragmatics as having to do with natural languages only and to include the semantic description of such languages.

Enter Noam Chomsky, steeped in abstract logic and formalism. His ideal speaker, following largely innate urges, is relatively detached from environmental or situational contexts, and he produces mostly declarative sentences embodying propositions. (Of course I am oversimplifying.) Laudably thinking in terms of process, of input and output (perhaps under the subtle influence of M.I.T.'s engineering atmosphere?), the TG-model speaker somehow starts out at a deep-structure level to end up with an empirically describable surface utterance. Does he/she start out with syntactic structures to be fleshed out with lexical-semantic insertions, or are "semantic primes" present from the start? I have never entirely understood this; but, anyway, there we have years of controversy through the 'sixties up to the present, within transformational-generative linguistics, about the relationship between a (highly abstract) "syntax" and a (to my mind very narrow) "semantics." Even the most abstract syntactic slot or category has a particular function or meaning (at least if we subscribe to the "use" theory of meaning). This seems implied in the case-grammar approach of recent years. All lexical items, in addition to whatever they symbolize in our thinking, have syntactic specifications, and moreover are subject to selectional restrictions, so that we have to be concerned not only with the grammaticality but also with the semantic acceptability of word combinations. Depending on our conception of the "lexicon," specification of the meanings of function words, inflectional and derivational affixes, etc., belongs just in syntactic semantics, or also in lexical semantics, (I am not quite sure about the place of interjections, and of substitute forms such as yes, no.) Linguists raised on transformational-generative theory may prefer to speak of "semantic syntax," or even "semantax," rather than of "syntactic semantics." But clearly semantics in the conventional sense of the study of meanings, of the uses of lingual (not linguistic!) forms, is the broader field, which can be said to include the meaning modifications or restrictions resulting from form combinations. I cannot see syntax as the broader field that would encompass semantics, inasmuch as most lingual forms have some degree of meaning even in isolation, without syntactic embedding.

Outside of linguistics, i.e. in semiotics as a whole, the term semantics has been used by some in so broad a sense

as to be synonymous with semiotics itself, so that it would include syntactics and pragmatics.[15] This has not so far been the case in linguistics. What does characterize much of linguistic semantics, over the past twenty years or so, compared to the older lexical semantics, is, on the one hand, the attention to semantic features, i.e. to some kind of componential analysis (initially in the context of ethnosemantics, and encouraged by progress in phonetic feature analysis); on the other hand, increasing attention has been paid to sentence semantics, as against word semantics. In this latter development one can see some influence of logic and language philosophy; many analytic philosophers use the label semantics to refer to theories of sentence meaning, viz., the truth conditions of declarative (cognitive) sentences only, and relationships (such as synonymy, entailment, etc.) between sentences. This may apply to artificially constructed languages, where syntactic forms are indeed meaningless until given a so-called "semantic" interpretation, as well as to natural languages. Linguistic sentence-semantics, it seems to me, necessarily goes beyond what Morris and Carnap had in mind when they defined their semantics in contradistinction to syntactics; sentence semantics necessarily subsumes some syntactic semantics. Linguistics, of course, deals with all kinds of sentences, not only with cognitive statements.

Here is an extremely brief content analysis of some semantics textbooks for linguistics students published in recent years in the United States and Great Britain, revealing what many linguists now consider the core of semantics and what is (temporarily) shoved into the background: The text by Don and Alleen Nilsen, 1975, concentrates on semantic anomaly and ambiguity, semantic features, semantic cases (i.e., case "grammar"), relations of antonymy, synonymy and paraphrase.[16] The text by George Dillon, 1977, starts out with some componential analysis of word meanings, goes on to decontextualisation, selectional restrictions and rules, the modifying function of adjectives and adverbials, semantic roles in case grammar; the logic of negatives and quantifiers; and a concluding chapter entitled "Pragmatics" (deixis, etc.).[17] Janet Fodor, 1977, in her text limited to generative theory, covers various theories of meaning, linguistic as well as philosophical; TG theories from Katz to Gruber; mapping rules, semantic representations.[18] Ruth Kempson, 1977, frankly introduces semantics as a "bridge between linguistics and philosophy" and proceeds to chapters on word meanings, sentence meaning and truth, language use (speech acts etc.), ambiguity, logic (presupposition etc.), the relation between syntax and semantics.[19] Geoffrey Leech, 1974, proceeds from aspects of word meaning to the semantics of sentences, everyday logic, semantics and syntax, rules of implication, presuppositions.[20] F.R. Palmer, 1981, in a brief chapter on the scope of semantics, suggests naming vs. concepts, sense vs. reference, word vs. sentence

as key concerns; two chapters are given to lexical semantics (fields, sense relations, etc.), one each to grammar (syntax), logic, "utterance meaning" (speech act, presupposition, etc.).[21] By far the most comprehensive text is by John Lyons, 1977; after some introductory discussion of meaning, communication, semiotics, Lyons gives two chapters to behaviorist vs. logical semantics, one to reference vs. sense, two to structural semantics, three to "semantics and grammar"; and there are concluding chapters on context, deixis, speech acts, modality.[22] The latest arrival on the market, Hurford and Heasley's "programmed" text, 1983, covers reference vs. sense relations, a bit of logic, aspects of dictionary meaning, speech acts and implicatures.[23]

What emerges from this nutshell survey, I suppose, is that the formerly central topic of types and causes of change in word meanings is absent, that on the other hand a good deal of attention is given to sentence relations, logical analysis, grammatical meaning-- and to topics such as deixis, presupposition, speech act theory, that most recently have become the core of a separate "pragmatics."

A few words on pragmatics, then. A number of books, specifically on pragmatics as part of linguistics, have appeared in recent years. Special conferences on pragmatics have recently been held at Urbino and at Perpignan. This year's Georgetown Round Table on Languages and Linguistics devoted three of its sessions to this topic; and one panelist there gave his institutional affiliation as "Pragmatics International"! We better be with it. Charles Morris, as I have already indicated, had coined this term in 1938, vaguely alluding to Peirce's "pragmatism"; he defined this subdivision of semiotics (and therefore, we would presume, also of linguistics) as the study of the relationship between signs and their interpreters, the sign users. Pragmatics, Morris added at the time, presupposes both syntactics and semantics; semantics presupposes syntax. The logician Carnap, in 1948, turned the argument around: descriptive semantics and syntax are just parts of pragmatics; pragmatics is the basis for all of linguistics.[24] Among linguists themselves, the concept of pragmatics (as against semantics and syntax) was practically unknown until the link-up with language philosophy in the late 1960's.

Within philosophy itself, in the late 1950's Wittgenstein and Austin had rebelled against the narrow concern with the logical analysis of cognitive statements; non-cognitive utterances are also important, they said, if viewed in their social effects. With the assist of Searle and Grice, speech act theory was born, at about the same time that many linguists, dissatisfied with the abstractness of Chomsky's "ideal speaker," took a growing interest in sociolinguistics (rule-governed variation!) and in what Dell Hymes dubbed the ethnography of communication. Now some of these linguists

remembered Morris' "pragmatics," which would fit in nicely along "syntax" and a narrowly conceived "semantics," to cover aspects of contextual meaning. Deixis was one such topic familiar within linguistics; other topics, developed by philosophers, came in under the heading of presupposition, implicature, and, of course, speech acts. Some linguists would include discourse analysis; some in Continental Europe now use the pragmatics label for most of what Americans call sociolinguistics, perhaps even psycholinguistics. The editors of the Journal of Pragmatics founded in 1977 characterize linguistic pragmatics as the study of the conditions governing the use of language. In 1980 Searle, Kiefer and Bierwisch concluded that pragmatics is a fancy word without clear meaning. Using Bar-Hillel's definition of an "utterance" as the pairing of a sentence and a context, some would now say the "semantics" is concerned with sentence meaning, pragmatics with utterance meaning.[25]

What are my tentative conclusions? If we as linguists want to perpetuate the Morris-Carnap semiotic terminology, and I really see no strong reason why we should, then let us place "pragmatics" alongside "syntax" and "semantics," and let "pragmatics" eventually cover whatever cannot be included in "semantics," "syntax" (or grammar), and phonology. Actually neither Morris nor Carnap thought of syntax (syntactics), semantics, pragmatics as three independent complementary fields, but as interdependent. Linguistic pragmatics should then be allowed gradually to absorb aspects of socio-, ethno- and perhaps psycholinguistics.

My own preference, however, would be to conceive (linguistic) semantics in the broadest possible sense to include all aspects of the "meaning" or function or use of lingual forms, it being understood that lingual meanings, and meanings of any other "signs" for that matter, reside in the minds of interpreters. Linguistic semantics, or perhaps better lingual semantics, would comprise both lexical and syntactic semantics. (And one might speak of just syntax when focusing on form, without regard to meaning, or with regard to only "differential" meaning.) To lexical and syntactic semantics one might, I suppose, add something called "contextual semantics" to take care of meaning elements arising from verbal as well as nonverbal (paralinguistic-kinesic and situational) contexts. There would then be no need for the label pragmatics at all.

NOTES AND REFERENCES

1. Stephen Ullmann: Principles of semantics, 2nd ed. (New York: Philosophical Library, 1957), p.4.

2. Cf. Leo Pap: "A note on 'lingual' vs 'linguistic'", General Linguistics, v.2. no. 2 (Spring 1957), p.42; "Linguistic terminology as a source of verbal fictions," Language Sciences, No. 39 (1976), pp.1-5.

3. Stephen C. Levinson: Pragmatics (Cambridge University Press, 1983), p.38.

4. Leo Pap: "On the scope of linguistics today," Word, v.29 no.1 (April 1978), pp.7-17.

5. Leo Pap: "On the scope of semiotics: a critique and redefinition," A Semiotic landscape (The Hague: Mouton, 1979), pp.336-40; "General semiotics: hodgepodge, or integrative discipline?", Proceedings of the Semiotic Society of America, v.1 (Atlanta, 1978), pp.99-108; "Again: where to draw the line?", Semiotica, v.37 nos.3-4 (1981), pp.333-38.

6. Anatol Rapoport (Semantics, New York: Crowell, 1975, p.50) says syntactics includes syntax as well as phonetics, phonemics, morphology; but this proposed distinction between syntactics and syntax would surely foster confusion.

7. Nicolae Draganu: Storia della sintassi generale (Bologna: Patron, 1970), pp.7, 11. Fred W. Householder, ed.: Syntactic theory I: Structuralist (Baltimore: Penguin Books, 1972), pp.8, 10-11, 16.

8. Stephen Ullman, op. cit., p.34.

9. Cf. Allen Walker Read: "An account of the word 'semantics', Word, v.4 (1948), pp.78-97.

10. Rudolf Carnap, in his Introduction to semantics (Cambridge: Harvard University Press, 1948, p.238) suggested that Korzybski's "semantics" was relatively close to his own "pragmatics". John Lyons, more recently

(Semantics, I, New York: Cambridge University Press, 1977), has proposed (pp.97-98) that Korzybskian general semantics might be renamed "therapeutic semantics."

11. See Read's article cited in #9 above. Some more recent examples I have collected are: "'Investor-owned' is to 'in business for profit' as 'Department of Defense' is to 'Department of War' - a semantic device to obscure their true function..." (New York Times Book Review, 9 Jan. 1983, p.1); a university course is described as focusing in part on "the role of semantics in creating illusion and cultural neuroses" (Public Doublespeak Newsletter, v.2 no.3, p.7); prospective readers of a book on American English are assured by a reviewer that "you need have no fear of sinking up to the armpits in semantic swamps" (PMLA, March 1972, ad on p. 353.

12. The earliest example of this that I have encountered is in Felix Restrepo: El alma de las palabras (Madrid, or Bogota?), 1917, pp.21-22: "La semántica general debe.. explicar los diversos fenómenos semánticos que pueden tener lugar en cualquier lengua..." Pierre Guiraud (La sémantique, Paris: PUF, 1955, pp.108-09) divides linguistic semantics into general and applied. In Stephen Ullmann,op.cit., pp.263-64, general semantics is "panchronistic," applying to languages in all stages of history. In Ulrich Stiehl: Einführung in die allgemeine Semantik (Bern: Francke, 1970, p.8), general semantics deals not only with words and sentences, but also with concepts and propositions as they occur in scientific discourse, bracketing linguistic and logical grammar together. Rudolf Carnap, op. cit. pp.11 and 78, divides descriptive semantics (dealing with natural languages) into general and special.

13. Charles Morris: Foundations of the theory of signs," International encyclopedia of unified science, I (University of Chicago Press, 1938, here 1955), pp.84-85. _____: Signs, language and behavior (New York: Prentice-Hall, 1946), pp.217-19, 222. Also cf. Eugene Rochberg-Halton and Kevin McMurtrey: "The foundations of modern semiotic," American Journal of Semiotics, v.2 nos. 1-2 (1983), pp.131, 147-50.

14. The proposal made by R. W. Dettering in 1964 ("The prospect for semiotic unity," Etc. v.21. no.1, p.41) to substitute designatics for semantics in the Morris sense, in order to reduce the ambiguity of this latter term, has not received the attention it deserves.

15. Cf. Charles Morris: Signs..., p.2. Hugh Walpole: Semantics (New York: Norton, 1941), pp.20-22. Adam Schaff: Introduction to semantics (New York: Pergamon, 1962), p.31 (citing T. Kotarbinski). Norman Kretzmann: "Semantics," Encyclopedia of philosophy (New York: Macmillan, v.7, 1967), p.348.

16. Don L. F. Nilsen and Alleen Pace Nilsen: Semantic theory; a linguistic perspective, Rowley: Newbury House, 1975.

17. George L. Dillon: Introduction to contemporary linguistic semantics, Englewood Cliffs: Prentice-Hall, 1977.

18. Janet Dean Fodor: Semantics: theories of meaning in generative grammar, New York: Crowell, 1977.

19. Ruth M. Kempson: Semantic theory, Cambridge University Press, 1977.

20. Geoffrey Leech: Semantics, Penguin Books, 1974.

21. F. R. Palmer: Semantics, 2nd ed., Cambridge University Press, 1981.

22. John Lyons: Semantics, 2 vols., Cambridge University Press, 1977.

23. James R. Hurford and Brendan Heasley: Semantics: a coursebook, Cambridge University Press, 1983.

24. Charles Morris: "Foundations...", pp.100, 111. Rudolf Carnap, op. cit., pp.12-13.

25. Stephen C. Levinson, op. cit., pp.V-XI, 6, 14-20. Jef Verschueren: Pragmatics: an annotated bibliography (Amsterdam: Benjamins, 1978), p.V.

UNINTENDED PUNS

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Punning usually refers to the intentional use, for humorous effect, of an utterance or part of an utterance in such a way that two separate meanings are both signalled. The two different meanings may be due to two combinations of different words which are pronounced identically or similarly, or they may be due to two different meanings of a word or phrase.

If they are pronounced identically they may be called perfect puns, whereas if there are differences in their pronunciation, they would be imperfect puns. Consider the first two examples (Moger 1979):

1. If you're traveling in Scandinavia and you come to the last Lapp, you must be near the Finnish line.

This would be considered a perfect pun, not on the basis of its degree of humorousness, but because the two intended meanings are both pronounced exactly the same way.

2. Two Eskimos sitting in a kayak were chilly, but when they lit a fire in the craft it sank — proving once and for all that you can't have your kayak and heat it, too.

This is an example of an imperfect pun because the two phrases are pronounced in similar but not identical ways. If books of collected puns are typical, it appears that most puns are imperfect puns.

In this paper I wish to discuss what appears to be a hitherto unanalyzed language phenomenon — the unintended pun. The unintended pun differs from regular puns in that no pun was intended. Over the past year or so I have been collecting examples of such puns. All of the examples which follow were observed by me or my wife Judith or, rarely, by a friend who has heard that I am collecting them.

In the normal course of natural language some puns are inevitable. Example 3 is such a case:

3. Camera store sales clerk [to customer who thought her camera needed repair, when all it needed was a new battery]: I'll just have to charge you for the battery.

The fact that there is a meaning of "charge" which relates to batteries is irrelevant, because the use of "charge" is unavoidable in the circumstances. This word is the normal word of choice, and can only be avoided by circumlocution. This type of unintended pun is not interesting from my point of view.

What is interesting is that there occur a great many unintended puns that appear to have been caused by context. That is, they were avoidable by using

other expressions which were equally or even more likely than the expressions that were chosen. It is the thesis of this paper that not infrequently the choice of vocabulary is in fact driven by the alternate related meanings. Consider this example:

4. Stop blowing your nose. It's all in your head.

Note that there were many alternative ways of expressing the same communication intent. The informant could have said, for instance, "It's not as bad as you think," or, "It's really not necessary." Similarly, consider example 5:

5. Thank you for driving me to work. It really gave me a lift.

Note that the speaker could have said, "It really gave me a boost," "It really raised my spirits," "I really appreciated it," or any of a number of other expressions. The one chosen is not as high frequency as "I really appreciated it," nor does it differ significantly in degree of informality or any other variable I can think of from "It really gave me a boost." However, of all the different alternatives, the one used involves an unintended pun. I believe that this fact itself increases the likelihood of it being chosen.

The reason is this. In the case of expressions which are unintended puns, there are two paths linking those expressions to the developing linguistic form, whereas in the case of alternate ways of saying the same thing, there is but a single path. The existence of a second path increases the probability of that form being chosen. The second link may occur anywhere in mental structure, both within what is traditionally considered language structure and outside of it.

The link can be purely phonological in nature:

6. I didn't enjoy the girl scouts. They were always badgering you.

7. That customs officer has given us a hard time every time we've crossed the border. We're becoming accustomed to it.

Notice that in both of these examples the form of expression is actually more formal than one would expect. More probable would have been "They were always bugging you," and "We're getting used to it."

More common are unintended puns that come from second connections in the lexicon. In the following set of examples, it is through homonyms — words that have two distinct unrelated meanings:

8. Are you ready to zoom to the camera store?

9. He: Are your knees ticklish?
   She: Just a touch.

Notice in the preceding example that this use of "touch" is one that most would consider archaic. One might have expected "Just a bit" to have been much more likely. This example was not produced by a golden-ager, but rather by someone in her early twenties.

10. We tried out one of those two-person bathtubs — we could fit in, but just barely.

11. They actually reinstated this blind teacher. I couldn't see it.

12. He: They don't have any clocks here.

She: They just moved in. Give them time.

13. I could conceive of that fertility statue moving from house to house for generations to come.

14. [Woman talking about her recovery from a whiplash injury] I still cannot play tennis. I miss it sorely.

15. He: We need to buy toilet paper. Is it on the list?
She: Yes, in fact it is at the head of the list.

16. I didn't like that dentist at all. He was just starting out, and I felt that he hadn't had enough practice.

17. Basically, my program is written in LISP.

18. [Speaker talking about the computer-generated slides he used for his talk] It was just me and my film. It was just under development.

19. The main thing is getting the gas line installed.

20. The opthalmologist cost a lot more than OHIP [Ontario Health Insurance Plan] pays. I didn't focus on that.

21. We always have sex on Saturday mornings — it's almost a rut.

22. She [watching a television interview of a nudist. The somewhat silly discussion turned to stretch marks]: That's stretching things. ... [more silly questions] That's really labored.

By far the most common occurrences of unintended puns involve the use of idiomatic phrases. The intended use is the idiomatic use; the unintended connection is the literal meaning. This seems to me to be good evidence that the use of such idioms involves to some extent normal syntactic and semantic analysis.

23. Why did you pull the occupation of astronaut out of the air?

24. I think the writing was on the wall when the New York subways started getting all the grafitti.

25. Having a swimming pool really turned out to be something that one could get into.

26. He: Our son left the toilet seat up again.
She: I guess it's really a deep-seated habit.

27. That's what plumbers are for. I mean, shit!

28. [Discussion of the issue of judges requiring rapists to take a medicine that reduces testosterone levels] I don't know about this business of eliminating the jail term completely as long as they stay on the medication. That's hard to swallow.

29. He: Don't you have a picture of them in your wallet?
She: That's right, I do! Oh, I'm really out of the picture.

30. [Commenting on a TV program showing people being tatooed] Oh! That makes my skin crawl.

31. Do women gossip more than men? It goes without saying.

32. He [discussing proposed menu for dinner with Jewish friends]: Milk

and pork roast?
She: If you're going to be non-kosher, you might as well go whole hog.

33. She: I don't know if the child will be a good candidate for articulation therapy.
He: He's a hard worker and I think he would cooperate.
She: Well, I'll sound him out on that.

34. He: I think it's a 7-11 store.
She: 7-11? It could be. It's one of those stores that are open at odd hours.

35. You *can* get a good deal on shoes. You just have to be on your toes.

36. [Talking about Elizabeth Wiig, an emminent speech pathologist] She's one of the big wigs.

37. The zoologists say that we can control the seal population by giving them birth control medication. Only one injection would be required. It's a one-shot deal.

38. The first two years after teenagers get their driver's license, they love to run errands for you. They think it's a gas.

39. [Said to the driver of a car that had just hit a dead oppossum] You hit it dead on.

40. He: What will the weather be like for the fair tomorrow?
She: Probably rain. I mean, I hate to put a damper on things, but it'll probably rain.

41. [To neighbor who just finished mowing the lawn before it began to rain] That's cutting it close.

42. The fast food industry has been eating into the profits of the large grocery chains.

43. He perceived that the washing machine manufacturer that first marketed a machine that could handle permanent press would clean up.

44. He [while he and she were carrying a large pane of glass through the house, she started clowning]: Give me a break!

45. He: These scissors will cut through anything from paper to metal.
She: Thank you very much for them. They're really sharp!

46. She: Would you go to a topless beach with me?
He: Sure, it's no skin off my nose.

47. [Talking about windshield wiper blades] We'd better replace those blades before we wipe out.

48. [Overheard from a woman who was exiting from a restaurant] The music was too loud for my taste.

49. He [after describing how he wants to marry a woman after a brief but torrid affair]: I guess I sound as if I am coming off half-cocked.

The second connections for some unintended puns can be more distant. In the

next set of examples the second link involves connections through both homonyms and the literal meaning of an idiom:

50. That virus must be like shingles and other viruses that they haven't been able to nail.

51. The day she was born her fingernails were soft, but by the time she was two days old, they were hard as nails.

In the following example, the chain of second connection goes through three steps:

52. He's shorter than she is by a long shot.

The opposite of "short" as used in this example is "tall". The connection thus is from the "short/tall" use of "short" to the "short/long" use; from there to the opposite ("long"); and from there to the literal meaning of a word in the idiom "by a long shot".

Probably the most complicated secondary paths to trace are those that connect within our general information store — our general knowledge of the world. The following unintended puns find their origin through second connections in this area:.

53. He: Tell the joke about dying and going to heaven.
She: Okay, but help me fill in the details. I can only remember the bare bones of it.

54. She: Shall we serve scallops at the party?
He: Absolutely.
She: We'd have to have a practice run.
He: Maybe two or three.
She: Let's not go overboard.

55. At least Mondale is in favor of women's rights — that's heartening. [At the time this was uttered Senators Mondale and Hart were competing for the Democratic Party nomination for President.]

56. We're going to the forest with the class, and if I'm not back in time I'll be up the creek.

Sometimes completely extraneous context can trigger unintended puns. Here are two examples:

57. [While playing 20 questions to pass the time driving on a long trip, we suddenly pass a jet plane by the side of the road] Is it in plain view? [Referring to the object to be guessed, not the airplane.]

58. [After I described unintended puns to a group of linguists including Sydney Lamb, he chose to make an appending remark. As it happened, he was simultaneously bent over in his chair inserting a new cassette into a tape recorder. His head was not more than six inches from his feet.] Let me insert a footnote to that. [Everyone else in the room laughed in realization of this unintended pun, except Sydney and myself, who had not noticed it.]

One thing that seems to differentiate intended from unintended puns is that unintended puns appear to be almost always perfect puns, whereas intended puns are much more often imperfect puns. This can only be related as my

perception, since it is possible that I do not notice as many imperfect unintended puns as I do perfect unintended puns. The following are some examples of imperfect unintended puns:

59. [Commenting on a TV commercial showing a couple shaking hands and parting outside the woman's door] That's a bit out of date.

In this example the unintended meaning would have been better expressed, "That's a bit out of a date."

60. Our proposed Blissymbol for a peacock is pretty detailed.

In this example the unintended meaning would have been expressed "... is pretty tailed."

61. A lot of people in Provincetown are gay, so you'd better watch out for the public toilets — better just zip in and zip out.

Notice that in this example the unintended meaning would have been better expressed by "zip out and zip in".

From the examples given thus far one might assume that such puns tend to occur almost exclusively in informal conversation, but such is not the case. The following examples come from radio or television programs, or press interviews, where the speech could be expected to be relatively formal:

62. Wagner was a Francophobe, so the fact that his wife's mother was French must have galled him. [Texaco Metropolitan Opera "Tanhauser" first intermission commentary, March 1984]

63. Question: Why did you join a nudist club?
Answer: I don't know. You can't put your finger on it. [Interview for "Where there's life", a British educational-type television show broadcast on the Ontario Education Television Network, March 16, 1984]

64. I spent three days in jail because I wouldn't pay the ticket. That was just fine with me. [Interview on "For your information" on the CBC AM network]

65. No one in Canada has set up any regulations governing occupational safety on farms, so we're breaking new ground in this area. ["The Food Show" CBC AM Network, July 2]

66. Governor Blanchard asked for concrete plans for highway 131. [Detroit radio station newscast]

67. The Lightning Fastener Company [which invented the zipper] was not a fly-by-night operation. [CBC AM Network]

68. "Coloreds have a very pronounced way of speaking Afrikaans," Prof. Esterhuyse said. [The Globe and Mail, April 14, 1984]

69. "Even so, radio remains a sound investment." [Mimi Fullerton, financial analysist, quoted in the Toronto Star]

It is also not the case that unintended puns are confined to the spoken word. The following examples appear to have first appeared in written form:

70. [In a study of fire safety in high-rise buildings] He found people who ought to have been responsible for safety to be alarmingly

ignorant, and at alarming levels. [Editorial in the Globe & Mail, April 5, 1984]

71. [Prince Philip, president of the World Wildlife Fund, resigned from the New York-based Explorers Club because it served hippopotamus and lion steaks at its annual dinner] One report said the Prince wrote to the club saying he was appalled by what he called an exhibition of bad taste. [The Globe & Mail, March 14, 1984]

People who I have not personally caught producing unintended puns sometimes question whether some of these were really unintended. In response to this, I can state that people who I have caught producing such puns agree that they were neither intended nor noticed. Furthermore, people who are familiar with the Globe and Mail, a nationally distributed newspaper in Canada, whose closest counterpart in the United States is the Wall Street Journal, agree that such a publication would not purposely pun about a government study showing deficiencies in fire safety. And, of course, Prince Philip would not pun in a letter of resignation due to conscience. Nor would Utah Senator Jake Garn have purposely created the furor he did when he produced this unintended pun:

72. "I would have to ask the question, 'Would [Rev. Jesse] Jackson have been over there [in Syria on a mission to attempt to obtain the release of a downed flier] if Lieutenant Goodman weren't a black?' Sometimes you have to call a spade a spade." [Associated Press report appearing in the Globe & Mail, Jan. 4, 1984]

Occasionally, speakers catch themselves making such a pun. English even has a standard remark to append to such an utterance:

No pun intended.

When I am listening for such puns, I find them at a rate of about one per day. Some, no doubt, are due to pure chance. It seems especially easy to produce one when one is discussing purient matters. This is no doubt because so many common words have slang usage of a sexual nature. Nevertheless, I believe that the number of occurrences and variety of types supports the proposition that this phenomenon occurs more often than would be due to chance.

If this is true, it has important implications for language theory. One of the basic issues that must be faced by any theory purporting to be a theory of language behavior is the problem of selecting how to choose which words to use. The traditional view is that it is determined by a combination of factors, including differences in denotative meaning, differences in age or sophistication of the audience, differences in degree of expertise which the speaker intends to convey, differences in degree of formality of the situation, differences in affect the speaker feels toward the subject matter being conveyed, and other similar factors. In theory, if the linguist had the vocabulary network mapped out to the ultimate degree of delicacy and if she or he knew the values of all the denotative, connotative, and sociolinguistic variables required by the network, the logic of the network would allow one to predict the exact choice of vocabulary and language structure which a particular speaker would use in a particular situation.

All of this structure is intentional. Clearly the intentional system cannot account for unintended puns; something else is needed. Furthermore, if the theory is to be explanatory, one must explain why that something else exists in

the language behavior system. Ideally, that something else should have some value in other areas of language behavior.

My proposal is that what is needed is spreading activation. Spreading activation can be seen as a natural extension to the processing formulation developed to implement relational network grammars in the late 1960s (Reich 1968, 1970). In that version signals flowed through the network, and there were several signals active at any one time. Signals had one of three values: activation, negative feedback, and anticipatory. In language production, speech was produced only when an exactly specified set of signal conditions was realized. Once the communication intent was realized, all signal activity in the network ceased.

This system was not a spreading activation model, however. In a spreading activation relational network system, each signal has attached to it a value, indicating its strength. Whenever a signal arrives at a node, two types of signals may result. One type is one or more relatively strong signals that carry the basic flow of processing. This activation is very similar to the activation processing proposed 14 years ago, except that the strength of the signal is variable. Its value is a function of the signals coming into the node from all links. In addition to such strong signalling, activation at a lower level spreads out from that node along all connecting links, irrespective of type of node. Thus signalling ends up moving along not just several, but all links in the network simultaneously.

In language production every disjunction node (downward 'or' node) represents a choice point in the network of lexical and grammatical information. Whenever a particular disjunction node receives a strong downward signal, a choice must be made as to which realization path to take. That realization path will be chosen which has the highest value of anticipatory activation. In cases of near synonomous ways of expressing the same communication intent, spreading secondary activation can be enough to tip the scales in favor of a particular realization.

Spreading activation not only explains the occurrence of unintended puns, it actually predicts their occurrence. Under conditions where the same communication intent can be realized more or less equally successfully in two or more ways, if one of the ways has additional links to the meanings being expressed or to previously expressed forms, that path will develop higher levels of spreading activation, and thus that form will be selected over its competitors. The prediction of unintended puns is so basic to the model of spreading activation that if they did not occur more often than chance, it would be a major blow to the theory.

It is important to note that the system of spreading activation described here was not developed to explain unintended puns. The motivation to describe language behavior partly in these terms comes from numerous other language phenomena. In previous papers, Gary Dell and I have described how spreading activation can be used to account for the statistical frequencies found in slips of the tongue (Dell & Reich 1977, 1980a, 1980b, 1981). In artificial intelligence research, Graham Hirst at the University of Toronto (Hirst 1983), Gary Cottrel at the University of Rochester (Cottrel in prep.), and others have demonstrated its importance to the process of disambiguation. It also accounts for results in word choice problems like those posed by Labov in his "oups" studies (Labov 1973). Furthermore, such a system seems necessary to account for comprehension

of language which has been degraded by noise. Such a system would be able to fill in the missing gaps.

Spreading activation is a concept that originated in cognitive psychology (Collins & Loftus 1975) and is now actively pursued in both cognitive psychology and artificial intelligence work in computer science. It is one of the mainstream theories in these other fields of inquiry. Thus, although I am one of only a handful of linguists exploring this theoretical approach, I am convinced that the more the theory is developed the more it will be seen as a major contributor to our understanding of language behavior.

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IDIOMATICITY IN MANDARIN CHINESE

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走 馬 看 花

zǒu mǎ kàn hūa

"Look at flowers while riding on horseback -- to gain a superficial understanding through cursory examination"

0. A. Makkai's *Idiom Structure in English* (1972) proposes idiomaticity as a possible language universal. The present paper explores the concept of idiomaticity at various levels in contemporary Mandarin Chinese. At the lexemic level, idiomaticity is shown to be significant in the formation of polymorphemic compounds which have come to characterize the modern spoken Mandarin language, as well as in phrasal verb forms, tournures, irreversible binomials, and phrasal compound idioms. Chinese is also rich in sememic idioms of the proverb type, drawing from both the spoken language and the classical literary language. Of special interest is a type of 'popular elliptical simile' heretofore little studied. Lastly the possibility of a 'graphic idiom' analysis of individual Chinese characters made possible by the logographic nature of the Chinese writing system is also investigated.

1. At the end of Part I of his *Idiom Structure in English*, A. Makkai concludes by observing that "Whether the existance of two idiomaticity areas [lexemic and sememic] is a language universal or not is a question that can only be answered after a large number of contrastive studies have been completed. It is quite likely, however, that it will turn out to be a bone-fide language universal." (1972:187) The present paper will tentatively explore the relevance of this concept of idiomaticity to the analysis of contemporary Mandarin Chinese. In addition Makkai's distinction between the lexemic and sememic areas of idiomaticity will be seen to account for differing senses of the term 'idiom' as it has traditionally been applied to Mandarin.

'Idioms' or 'idiomatic phrases', in the ususal sense that the meaning of the whole form or phrase is not predictable from the meanings of the constituents (Hockett 1958:171-173; Bolinger & Sears, 1981:53), have not been specifically identified or investigated in any linguistic study of Mandarin Chinese, either in studies written by the Chinese themselves, nor in studies done in English. For example, idioms are not specifically addressed in

Y.R. Chao's monumental *Grammar of Spoken Chinese* (1968), although the concept of idiomaticity is occasionally evoked.[1] The same is true of Li & Thompson's most recent *Mandarin Chinese: A Functional Reference Grammar* (1981).

Furthermore, the concept of 'idiom' in this sense has not been explored by Chinese grammarians in their own studies of Mandarin (or of any other dialect, to my knowledge), nor have phraseological idioms been a focus of study by Chinese grammarians. In fact, until very recently, there has been no term in Chinese specifically corresponding to the term 'idiom' in its usual linguistic sense. The English term 'idiom' or 'idiomatic phrase' has usually been translated into Chinese as *xíyǔ* 'habitual saying', while at the same time, the English word 'idiom' has unfortunately been (mis)chosen as the most commonly employed translation for the Chinese term *chéngyǔ,* which refers to four character set expressions (usually from literary Chinese) which have become frozen (invariant) in comtemporary spoken and written Mandarin. Interestingly enough, in pedogogical grammars of English written in Chinese in the last dozen years, a new term *guànyòngyǔ* 'habitually used speech' (not to be found in either monolingual Chinese nor Chinese-English dictionaries[2]) has been developed by Chinese teachers of English as a more accurate, translation for the English terms 'idiom' or 'idiomatic phrase'.[3]

2. Idiomaticity at the Level of the Word.

In his 1958 text, Hockett defined an idiom as "any grammatical form the meaning of which is not deducible from its structure" (1958:172). Hockett further observed that "If we are to be consistent in our use of the definition, we are forced to grant every morpheme idiomatic status, save when it is occurring as a constituent of a large idiom, since a morpheme has no structure from which its meaning could be deduced" (*ibid.*). At this most basic level, Hockett's observation is as true of Mandarin as it is of any language, and need not be dwelt on here.

An interesting point about Chinese, however, is that by far the vast majority of Chinese morphemes are monosyllabic. Historically it has been observed that in the past, when the number of phonological distinctions (including the number of phonemic tones) was greater than it is now in modern Mandarin, the number of potentially confusing homophones was much fewer, and as far as we can tell, the number of monosyllabic independent words was correspondingly higher. (This continues to hold true to a certain extent for those dialects such as Cantonese and Fukienese where the number of phonemic distinctions, especially the number of tones, is still much greater.) But modern 'Mandarin' (so-called because it was originally the *lingua franca* of the imperial officials or 'Mandarins' who were spread over the linguistically diverse Chinese Empire) may be thought of as having become 'worn down' by the speaking of many non-native tongues, including most recently the non-Chinese Manchu conquerers who occu-

pied and ruled China from the traditional northern capital city Peking (the source dialect for Mandarin), as the 'Ch'ing' dynasty for almost three hundred years from 1644 to 1911. It has been noted that as the number of potentially ambiguous homophones increased through the historical reduction of phonemic distinctions in Mandarin, the language 'compensated' for this fact by increasing the number of polysyllabic words in the (spoken) language. (As each monosyllabic morpheme could still be unambiguously represented by a different graphic form in the written language, monosyllabicity continued to characterize the classical or 'literary' written style.) As Li & Thompson phrase it,

> The threat of too many homophonous syllables has forced the language to increase dramatically the proportion of polysyllabic words, principally by means of ... compounding ... (1981:14)

> The response to this impending massive homophony in Mandarin has been a steady tendency to develop disyllabic words. (p. 44)

> ....For example, the notion 'fortunate' was expressed by the monosyllabic word *xìng* at an earlier stage of the language; in modern Mandarin, this notion is expressed by the parallel compound *xìng-fú* 'fortunate-blessed = fortunate'. The notion 'celebrate' was formerly *qìng,* but is *qìng-zhù* 'celebrate-bless = celebrate' in modern Mandarin.... (1981:68)

Present day Mandarin, therefore, is now characterized by being almost entirely composed of such words. The types of compounding employed by the language are numerous, and have been explored in detail elsewhere. (See Chao 1968:359-495; Li & Thompson 1981:44-84.) From the point of view of the present discussion, however, we are concerned not so much with the diachronic question of idiomaticity as a factor in compound formation, as with the synchronic question of the extent to which such compounds may be said to be idiomatic in the contemporary language. As Li & Thompson also note:

> Sometimes the meanings of the component morphemes are totally unrelated to the meaning of the entire word; for example, in *fēnglíu* 'amorous', *fēng* is a morpheme meaning 'wind', and *líu* is a morpheme meaning 'flow'. Sometimes the meaning of a polysyllabic word can only indirectly be connected with the literal meanings of the component morphemes, as, for example, in *ròu-má* 'flesh-numb = disgusting'. Sometimes the meaning of a polysyllabic word can only be metaphorically related to the meanings of its component morphemes, as in *xiǎoxīn* 'small-heart = be careful'.....
>
> The relatedness between the meaning of a compound [word] and those of its components can vary from close to

> nonexistent. Although not all compounds are idiomatic in meaning, the situation concerning the meaning of compounds by and large parallels that of idioms. One factor that plays a role in the semantic relations between an idiom and its components is time. Idioms are continuously being formed. At the time of the formation of a new idiom, not only are the speakers aware of the literal and idiomatic senses of the term, but they also know the connection between them. As time moves on, this semantic connection begins to recede from the realm of the knowledge of the native speakers until, finally, it is totally lost.....In the case of Mandarin compounds, the time element is related to a speaker's knowledge of the classical language. A morpheme in a Mandarin compound may come from the classical language; if one is not familiar with the classical language, such a morpheme will be obsolete and, therefore, meaningless. For example, *qūzú* 'to chase' is composed of two morphemes from Classical Chinese, *qū* 'drive' and *zú* 'pursue', neither of which exists any longer as a morpheme in modern Mandarin. Thus, the problems concerning compounds in Mandarin are often related through the written language to Classical Chinese (1981: 45-46)

Thus, while the origin of the modern compound *fēijī* from *fēi* 'fly' plus *jī* 'machine' meaning 'airplane' is transparent enough to any modern speaker, other compounds are far more opaque; for example:

xīn 'fuel' + *shǔi* 'water' = *xīnshǔi* 'salary'
xiǎo 'small' + *shūo* 'speak' = *xiǎoshūo* 'novel(s)'
xiǎo 'small' + *biàn* 'convenience' = *xiǎobiàn* 'urinate/urine'
dà 'great' + *biàn* 'convenience' = *dàbiàn* 'defecate/feces'
shān 'mountain' + *shǔi* 'water' = *shānshǔi* 'landscape (painting)'
féi 'fat' + *zào* 'black' = *féizào* 'soap'
hūa 'flower' + *shēng* 'born' = *hūashēng* 'peanut'

Often the connection between the meaning of the compound and meanings of the component parts may be metaphorical, figurative, or inferential, as for example:

máo 'spear' + *dùn* 'shield' = *máodùn* 'contradiction'
kāi 'to open' + *guān* 'to close' = *kāiguān* '(electrical) switch'
rè 'hot' + *xīn* 'heart/mind' = *rèxīn* 'enthusiastic'
diàn 'electric' + *yǐng* 'shadow/image' = *diànyǐng* 'motion picture'
hǔo 'fire' + *chái* 'kindling wood' = *hǔochái* 'match(es)'
gōng 'public' + *lù* 'road' = *gōnglù* 'highway'
qīng 'light(ly)' + *shì* 'look' = *qīngshì* 'to look down on'
zhòng 'heavy' + *shì* 'look' = *zhòngshì* 'to take as important'
hòu 'later' + *rén* 'people' = *hòurén* 'posterity'

As noted above, such historical, metophorical, figurative, or inferential meanings, may or may not be transparent to contemporary native speakers, depending on such factors as the degree of linguistic change since the formation of the compound, the speaker's educational level, literacy, and/or familiarity with the classical language, or even his or her individual predeliction to reflect upon such matters.[4] Hockett long ago pointed out to us in "Chinese vs. English: An Exploration of the Whorfian Theses" (1954:111) that although the Chinese word for '(railroad) train', *huǒchē*, is composed of the morphemes *huǒ* 'fire' plus *chē* 'car, cart, wheeled vehicle', we should beware of

> ...The tendency, in talking in English about the Chinese word ... *[huǒchē]* ... to say something like "Chinese *huǒchē*, the word for 'train' means literally 'fire-cart'." Now we can be sure of two things:
>
> (1) When steam rail transportation was introduced into China, the term *huǒchē* came into use because of the fire-spitting locomotive[5];
>
> (2) The formal structure of *huǒchē* is still validly to be described as a compound of *huǒ* and *chē*, as listed and glossed above.
>
> However, the remark given in double quotes above is misleading. Currently, *huǒchē* means almost exactly what 'train' means -- there is no necessary image of a fire-spitting locomotive inside the speaker's head when he uses or hears the word. Evidence for this is that 'electric train' (as on an electrified railroad) is *diànlì-huǒchē*,[6] where *diànlì* means 'electric power'; such a train does not have a fire-spitting locomotive.

Thus idiomaticity may be seen today to play a large role both diachronically in the formation of compounds which has characterized the development of modern (polysyllabic) Mandarin, and synchronically, to the extent that the origin(s) of such polysyllabic compounds may have become opaque to contemporary speakers of modern Mandarin due to historical change in the language. As Makkai has noted, "It is a universal feature of idioms that they come on a scale of metaphorical gradation from completely metaphorically translucent forms to entirely opaque ones" (1972:445).

3. Phrasal Verb Idioms.

Also on the lexemic level are phrasal verb idioms. In contemporary Mandarin, the majority of these may be grouped under the headings of (1) verb + object (V-O) compounds [Chao 1968: 425ff.] and verb + complement (V-C) compounds [Chao 1968:435], the latter term covering both 'resultative compound verbs' and 'directional compound verbs'.

3.1 Verb + Object Compounds.

Another feature charateristic of modern Mandarin is the formation of verb-object compounds, which in some cases, although superficially resembling simple combinations of verb plus object, in fact take on a special lexicalized or idiomatic meaning differing from what one assumes from the meanings of the component parts. For example:

fān 'to turn' + *liǎn* 'face' = *fānliǎn* 'to become angry'
fā 'to develop/issue' + *cái* 'wealth' = *fācái* 'to get rich'
qīn 'to caress' + *zǔi* 'mouth' = *qīnzǔi* 'to kiss'
chū 'to go out' + *mén* 'door' = *chūmén* 'to get married' (of women)
chū 'to go out' + *jiā* 'home' = *chūjiā* 'to become a monk'
duàn 'to break' + *xián* '(lute) string' = *duànxián* 'one's wife dies
xù 'continue' + *xián* '(lute) string' = *xùxián* 'remarry'
xǔe 'snow/wash' + *chǐ* 'shame' = *xǔechǐ* 'to avenge a wrong'
chī 'to eat' + *cù* 'vinegar' = *chīcù* 'to be jealous'
tái 'to shoulder' + *gàng* 'carrying pole' = *táigàng* 'to bicker'

Chao notes that such compounds are "definitely lexical, and their meanings will have to be given as wholes in addition to the meanings of the parts" (1968:423-4), a classic defining characteristic of idioms.

In addition, it has often been noted that the malleability of different idioms in terms of their ability to undergo such processes as expansion, transformation, etc., is usually a matter of degree [e.g., Bolinger & Sears 1981:53; Fraser 1970] Chao notes that such verb-object compounds as listed above also vary in their malleability including (1) 'solid' V-O compounds, which cannot be expanded or transformed in any fashion; (2) those permitting suffixes and complements to the verb; (3) those permitting modifiers of the object; (4) those permitting inversion; and (5) those permitting separation in questions and answers (1968:426-9).

3.2 Verb + Complement Compounds.

The other major type of phrasal verb idiom commonly occurring in Mandarin are verb + complement compounds, which consist of verbs plus either (1) resultative endings or (2) directional endings. Verbs plus resultative endings produce the so-called 'resultative compound verbs' (Fenn & Tewksbury 1967:164-168), that is, verbs plus complements which follow and are bound to the verb and which express the result of the action of the verb. (Cf. Chao 1968:435.) The majority of these are the result of fairly productive paradigms, thus:

zhǎo 'to look for' + *zháo* 'successful attnmt.' = *zhǎozháo* 'to find'
mǎi 'to shop for' + *zháo* 'successful attnmt.' = *mǎizháo* 'to (successfully shop for and) buy

One particular feature of such resultative compound verbs is they can occur productively in the so-called 'potential' construction, either affirmatively or negatively, by the infixation between the verb and the resultative ending of either the affirmative potential infix *-de-*, or the negative potential marker *-bu-*, respectively; thus:

zhǎo (look for) *-de- zháo* (succ. attnmt.) = 'can be found'
zhǎo (look for) *-bu- zháo* (succ. attnmt.) = 'cannot be found'
mǎi (shop for) *-de- zháo* (succ. attnmt.) = 'can be bought'
mǎi (shop for) *-bu- zháo* (succ. attnmt.) = 'cannot be bought'

There are a limited number of such potential compounds, however, which occur either mostly or exclusively only in the potential form, with idiomatic meanings. A few exist only in the negative potential form [cf. Chao 1968:457]

yòng 'to use' + *bu + zháo (succ. attnmt.) = yòngbuzháo* 'unnecessary'
fàn 'offend' + *bu + zháo (succ. attnmt.) = fànbuzháo* 'not worthwhile'
(N.b., fàndezháo is rare; **fànzháo* does not occur.)
lái 'to come' + *de + jí* 'to reach' = *láidejí* 'to have time for; be in time for'
lái 'to come' + *bu + jí* 'to reach' = *láibují* 'cannot have time for/cannot be in time for'
*(N.b., *láijí* does not occur.)

A similar phenomenon occurs with the other type of verb plus complement compound, that is, verb plus directional complement. These can occur literally, both as simple directional compound verbs, and also together with the affirmative or negative potential infix:

(a) *fàng* 'to put' + *xià* 'down' = *fàngxià* 'to put down'
fàng 'to put' + *de + xia* 'down' = *fangdexia* 'can put down'
fàng 'to put' + *bu + xià* 'down' = *fàngbuxià* 'cannot put down'

(b) *dài* 'to carry' + *lái* 'come' = *dàilái* 'to carry along with'
dài 'to carry' + *de + lái* 'come' = *dàidelái* 'can carry along with'
dài 'to carry' + *bu + lái* 'come' = *dàibulái* 'cannot carry along with'

However, many of these directional compound verbs can occur only with a potential infix, with a specialized sense, and thus must be listed as lexicalized compound verbs or idioms. [Cf. Chao 1968: 467-472.] For example,

(a) *xià* 'to go down' + *bu* + *qù* 'go' = *xiàbuqù* 'unacceptable'
Tā nèige zuòfǎ shì xiàbuqù. 'The way he acts is unacceptable' ('Won't go down')

(b) *tán* 'to chat' + *de* + *lái* 'come' = *tándelái* 'to be able to talk to; able to get along with'
Wǒ hé tā tándelái: I can get along with him.
Wǒ hé tā tánbulái: I can't get along with him.

(c) *mǎi* 'to buy' + *de* + *qǐ* 'upwards' = *mǎideqǐ* 'to be able (to afford) to buy'
mǎi 'to buy' + *bu* + *qǐ* 'upwards' = *mǎibuqǐ* 'not to be able (to afford) to buy'

(d) *kàn* 'to look' + *bu* + *qǐ* 'upwards' = *kànbuqǐ* 'to look down on'
kàn 'to look' + *de* + *qǐ* 'upwards' = *kàndeqǐ* 'not to look down on'

(Note again that with these special lexicalized meanings, these compounds can occur only in the potentialized form.)

4. Tournure Idioms

Another type of lexemic idiom described by Makkai (1972: 148-155) are tournures ('turns of meaning') or phrase idioms (cf. Fraser, 1970), a type of phraseological idiom which does not correlate with regular parts of speech, usually requiring a paraphrase longer than one word[7], the archetypal example in English being 'to kick the bucket', in the sense of 'to die'. Some Chinese examples are:

dài lǜ màozi L: to wear a green hat; I: to be a cuckhold
mài gāo yào L: to sell medicinal plasters; F: to be a swindler
zùo shān guān hǔ dòu L: to sit on a mountain and watch tigers fight; I: to be a bystander
yǎnjing chī bīngqilíng L: eyes eat(ing) ice cream; I: to derive pleasure from seeing beauty (Taiwan Mandarin)
pèng dìngzi L: to bump into a nail; I: encounter a rebuff
(gěi X) chuān xiǎo xié(zi) L: to (cause someone to) wear small shoes; I: make things difficult (for someone)
zhūa biānzi L: to grab pigtail(s); I: to (try to) find fault with

5. Irreversible Binomial Idioms.

Mandarin also possesses irreversible binomial idioms, as

studied by Malkiel (1959) and Makkai (1972:155-164).

xiōngdìjiěmèi 'brothers and sisters'
fùqin mǔqin 'father and mother'
xīnde jiùde 'new and old'
lǎode shàode 'old and young' (vs. English: 'young and old')
xiānsheng xuésheng 'teacher(s) and student(s)'
rén shān rén hǎi L: people mountain, people sea; I: crowds of people
Zhāng Sān Lǐ Sì L: Third (Brother) Zhang (&) Fourth (Brother) Li; I: 'Tom, Dick and Harry'

6. Phrasal Compound Idioms (P.C.I.)

In some cases compounds in Chinese are distinguished from binomial phrases (see previous section) by the loss of tone and stress (the so-called *qīng shēng* 'light tone') on the second member of compound; thus:

(a) *dōng* 'east' + *xī* 'west' = *dōngxī* 'east and west'
vs. Phrasal Compound Idiom: *dōngxi* 'thing'

(b) *mǎi* 'to buy' + *mài* 'to sell' = *mǎimài* 'buy and/or sell'
vs. P.C.I.: *mǎimai* 'business'

(c) *dūo* 'many/much' + *shǎo* 'few/little' = *dūoshǎo* 'many and/or few; much and/or a little'
vs. *dūoshao* 'how much/how many'

Such stress differences are analogous to those in such pairs as *whíte hóuse* vs. *Whíte Hòuse* and *bláck bírd* vs. *bláckbìrd* in English. Of such minimal pairs in Mandarin we may make the same observation which Hockett made of their English parallels: "the marker [here loss of stress and tone on the second element of the compound] indicates idiomaticity, but by no means all idioms have the marker." (1958:316). Additional phrasal compound idioms in which the compounds retain their original stress and tone (similar to English *'bláck shéep'*; cf. Makkai 1972:330) are:

mǎ shàng L: 'on horse(back)'; I: 'immediately'
Wáng Bā L: 'Eighth (Brother) Wang'; I: 'bastard' (insult)
pò xié(zi) L: broken shoe; I: adultress
Měnggu Dàifu L: Mongolian Doctor; I: one who pretends to know
Dōngguo Xiānsheng L: Mr. Dongguo (in a folk tale); I: gullible
sān zhī shǒu L: three hands; I: a pickpocket
qiángtou cǎo L: grass atop a wall; I: one whose views change easily
bàn píng cù L: half a bottle of vinegar; I: a dabbler

ěr biàn fēng L: wind by the ear; I: speech not paid attention to

chūnchǐ guānxi L: a lips & teeth relationship; I: a mutually vital relationship

7. Sememic Idioms.

The area of semantic (or 'cultural pragmatic') idioms is tentatively proposed by Makkai (1972:169-172):

> The second type of idiom, the semantic type, is characterized by its clause length. It does not coincide with any individual form class (noun, verb, adjective, etc.), but is a small independent piece of text with more than one way to interpret it. (Makkai 1978:444)

It is under this analysis that we may also characterize as idioms (1) fixed four character phrases *(chéngyǔ)*, (2) proverbs *(yànyǔ)* and maxims *(géyán)*, (3) and 'popular elliptical similes' *(xīehòuyǔ)*, all of which Chinese scholars usually group together under the general heading of *shúyǔ* 'common sayings'. (See *Cí Hǎi* 1980:15-16; *A Chinese-English Dictionary of Idioms (sic)* 1982:3).

7.1. Fixed Four Character Phrases *(Chéngyǔ)*

As noted above, *chéngyǔ* (literally: 'become sayings') are fixed, (usually) four-character expressions, usually in the style of and derived from the older form of the written language known as 'literary Chinese', which have become proverbial in the written and spoken language of most educated speakers. One example is the epigraph at the beginning of this article: *zǒu mǎ kàn huā*, literally 'to view flowers while riding a horse', meaning 'to gain a superficial understanding through cursory examination'. Characteristically, this fixed four character 'idiom' is also given in the older form *zǒu mǎ guān huā* using the older literary style word for 'to view', later replaced by the more colloquial *kàn* 'to look at'. The number of these *chéngyǔ* runs into the thousands, drawing many references from history, classical literature, and mythology:

Bān mén nòng fǔ L: To wield an axe before the gate of (Lu) Ban, the master carpenter; I: to display one's slight skill before an expert.

rùo ròu qiáng shí L: The weak are meat for the strong to eat; I: the law of the jungle.

kǒu mì fù jiàn L: honey-mouthed and dagger-hearted; I: hypocritical and malignant.

mò míng qí miào L: no way to express its oddity; I: really odd, strange.

7.2 Proverbs *(yànyǔ)* and Maxims *(géyan)*:

Equally popular but of a more colloquial nature are *yànyǔ* and *géyan:*

qūn yǔ gùi rú yóu 'Spring rains are as valuable as oil'
tiānxià wūyā yībān hēi 'Crows are equally black all over the world'; i.e., evil people are the same everywhere.

Yicùn guāngyīn yicūn jīn; cùn jīn nán mǎi cùn guāngyīn An inch of time [on a sundial] (is worth) an inch of gold; an inch of gold cannot buy an inch of time = Time is precious.

7.3 Popular Elliptical Similes *(xiēhòuyǔ)*

A particularly interesting type of idiom apparently peculiar to Chinese is what I have dubbed the 'popular elliptical simile', a popular saying in which the first part, a metaphor or simile, is uttered or written, and the second part, the explanation of the allusion (which may be in the form of a pun) is left unsaid:[8]

(xiàng) lǎo tàipo de gǔojiǎo bù -- (yòu chòu, yòu cháng): '(like) old lady's foot wrappings -- (both stinking and long)' [said of speeches, stories, etc.]

ní púsà guò jiāng -- (zì shēn nán bǎo): '(like) a clay Boddhisatva image crossing a river -- (hard put to protect even itself)' [let alone others]

shàng xié bùyòng zhūizi -- (zhēn hǎo): '[sewing on] the upper part of a shoe without using an awl -- ([because the] needle is good!)' (Pun on: 'Really good!')

(Incidentally, these are in some sense similar to the early 1950's adolescent slang described by Hockett (1958:318): "Here's your horn: blow" and "here's your drum: beat it" (both slang for 'leave!; go away!').)

Obviously, understanding the significance of these popular similes depends on knowing the unspoken 'punch line' (although in contemporary written fiction, they are often written out for the benefit of uninitiated readers in the immediately following context).

7.4 Familiar Quotations from Literature, Philosophy, History, Drama, etc.

The number of these is also great, considering the length and richness of China's history and literature, and ranges from quotations from the famous "I Ching" ("The Book of Changes"), the "Tao De Ching" or Laotse, and the Confucian Analects, through the Hundred Poems of the Tang, and such famous novels

as The Romance of Three Kingdoms, The Journey to the West ("Monkey King"), The Water Margin ("All Men Are Brothers"), The Dream of the Red Chamber, and countless other works of history, literature, and art, to the contemporary quotations of Mao Zedong, and the plays and operas sponsored by the infamous 'Gang of Four' during the recent 'Great People's Proletarian Cultural Revolution' (The East is Red; The White-Haired Girl; Red Detachment of Women, etc.). Another source of idioms is the constant creation of political slogans which most of the literate population of China are required to repeat, many of which have become fixtures of the language. (Included under slogans are also the abbreviated versions of long political terms and names, such as *wéngé* 文革 'cult.-rev.' for '(Great People's) Cultural Revolution', etc.)

The last comment which might be made is that such a wealth of fixed idiomatic expressions in the oral language (including those which derive from written sources) are of course the hallmark of a primarily illiterate and agriculturally-based culture. It remains to be seen what effect the widespread literacy campaigns conducted in China since the 1950's, combined with urbanization, industrialization, and the spread of the standard Mandarin language as a second language through modern mass media of communications will have on this traditionally oral culture. Will this still rich stock of sememic idioms become antiquated and reduced, as with the English "penny wise and pound foolish", "Give them an inch and they'll take an ell", etc.?

8. Institutionalized Greetings and Politeness.

As a traditionally hierarchical society, up through the first half of the present century, Mandarin abounded with institutionalized forms of politeness, in addition to the standard frozen forms for greetings:

nín gùi xìng? '(What is) your valuable ('honorable') surname?'
bì xìng ... 'My humble surname is ...'
jiǔyǎng '(I have) long heard (your) illustrious name'
méiyǒu shémma cài 'There is not any food (worthy of mention here)'
dàimàn '(I have) treated (you) shabbily'
gùifu (or) *fùshang* 'your (valuable) home/family'
láojià 'May I trouble you'

Under the changing social conditions of modernization, urbanization, and (for many) communism, these expressions have become obsolescent and unfamiliar, as are the more removed parts of the once elaborate Chinese kinship system, as families have been reduced to small, nuclear family units. Of course other, less elaborate forms of ritualized greeting and politeness continue in everyday spoken Mandarin:

Nǐ(ń) hǎo (a)? 'How are you (polite)?'
Zǎo 'Good morning.'
Qǐng wèn... 'Please (may I) enquire....'
Qǐng nín pìpíng zhǐjiào 'Please give your comments and criticisms.'
zàijiàn 'Goodbye.'
yǒu kōng (dào wǒmen jiā) zài lái wán 'Please come (to our home) again when you have time.'

9. Chinese Character Formation: 'Graphic Idiomaticity.'

As a last, speculative point, it has been suggested to me by Adam Makkai (personal communication) that given the special semantic nature of the Chinese writing system, that at least some Chinese characters may be viewed as 'idiomatic' in their formation and composition. Obvious examples which spring to mind are:

女	'woman'	+	子	'child'	=	好	'good'
日	'sun'	+	月	'moon'	=	明	'bright'
宀	'roof'	+	女	'woman'	=	安	'peace'

Naturally such an analysis applies only to those Chinese characters which are 'compounded' out of simpler, semantically significant smaller component parts which have their own independent (and related) semantic meanings. These minimal component parts may be viewed as analogous to morphemes in the graphemic system of Chinese (i.e., not reducible to any smaller semantically significant parts[9]), at least in terms of the historical formation of Chinese characters, especially such early graphic compounds as those given above, before the later prevalence of the semantic-radical-plus-phonetic type of graphic compounding which now accounts for over ninety percent of present day Chinese characters.[10]

To summarize the history of the development of Chinese characters extremely briefly, the earliest examples of Chinese 'writing' from approximately 2000 B.C. are still somewhat obscure, but by the period of the 'Oracle Bone' inscriptions (1400-1200 B.C.) the writing system had already basically reached the form in which we know it today. Chinese characters are traditionally divided into six basic classes *('liù shū')* on the basis of the manner in which they are formed. This division was first made in the classic *Zhōu LǏ* ('The Rites of the State of Zhou') about 300 B.C. These six classes are:

1. Simple Pictographs:

人 (a picture of a) person, originally

日 (a picture of) the sun, originally

月 (a picture of) the moon, originally

木 (a picture of a) tree

馬 (a picture of a) horse

2. Ideograms:

大 (person with arms extended) = big/great/large

一 (one line) = (the number) one

二 (two lines) = (the number) two

上 (vertical above line) = up; on

下 (vertical below line) = down; below

3. 'Met Meanings':

日 'sun' + 月 'moon' = 明 'bright' (see above examples)

4. Repeated Characters:

木 'tree' (doubled) = 林 'woods'

木 'tree' (tripled) = 森 'forest'

5. Phonological Borrowings:

Doubtless because of the obvious limitation of such principles, even by 1400 B.C. Chinese scribes had taken the step (which later led ultimately to alphabetization in the West) of beginning to use the existing written symbols for their phonological value, rather than for their semantic value. Thus the character 麥 originally pictographically representing a certain type of wheat, whose name is reconstructed to have been something like *ləijk, was borrowed and used to represent the sound of an homophonous spoken word which meant 'to come' (now 來).

6. 'Picto-phonetic' Characters:

Such homophone borrowing has its limitations, the most obvious one being the difficulty of knowing which sense of the borrowed character is being signified, the original (e.g., 'wheat') or the borrowed (e.g., 'to come'). The next step was then to pair with the phonetic part, a semantic 'radical' or 'root' which would indicate which of the homophones was being represented. It is these semantic - radical - plus - phonologically - suggestive - phonetic - component - type characters which now comprise the overwhelming majority of Chinese characters today. Famous examples are:

媽 *ma* from 女 'female' + 馬 *ma* ('horse')

罵 *ma* from 吅 '2 mouths' + 馬 *ma* ('horse')

From this perspective, then, we can see that from a graphological point of view, we have the same diachronic/synchronic problem with the idiomatic nature of the composition of Chinese characters as we encountered with Chinese spoken compounds. (See section 2 above.)

(A) The originally idiomatic nature of the compound character may no longer be transparent, due to linguistic (or graphic) change; thus:

日 (originally) 'sun' + 月 (originally) 'moon' = 明 'bright. But in fact nowadays the morpheme represented by the character 日 alone now has come to mean 'day', and the morpheme represented by the character 月 is usually now understood in the sense of 'month', so that without some historical explanation, 'day' + 'month' ≠ 'bright'.

(In fact, Chinese primary school calligraphic pedagogy abounds with all sorts of 'historical' explanation, most of it in reality *ad hoc* mnemonic devices of little historical accuracy.)

(B) Due to historical change (phonological, semantic, and graphic), the basis on which any one particular character was originally compounded may have become obscure, but for pedagogical and mnemonic purposes, false 'etymologies' for the characters have constantly been evolved and passed on year after year over the centuries. Thus, in point of fact, Boodberg (1940) argues strongly that the graphic 'etymology' given for the character for 'bright' in (A) above is incorrect. Boodberg argues that the character 明 is in reality of the sixth type, that is, that while the lefthand component 日 is a semantic radical suggesting (the brightness of) the sun, the righthand component 月 is in fact a phonetic element selected for its phonological similarity to the spoken word for 'bright' *(*miəuŋ)*, and not primarily for its semantic value of 'moon' at all. (We may only speculate as to the additional influence of semantic associations in the choice of the 月 component, assuming that there existed a number of possible (near) homophones from which to choose.) According to this analysis, it was only after the spoken word for 'bright' grew too distant in pronunciation from the pronunciation of the character that the (folk?) etymology of the 月 element as having been chosen primarily for its semantic value took over. (In some cases, the pressures of such etymologies have even caused the shape of a character to be altered to agree with its supposed graphic etymology.)

From this very brief sketch, the general outlines of the problems connected with an analysis of 'graphic idiomaticity' as a factor in the analysis of Chinese characters may be discerned.

And yet as we have seen above in our review of the spoken language, idiomaticity may be diachronically significant in the original choice of one particular metaphor in the formation of a linguistic expression, as well as being synchronically significant in that such metaphors tend to become opaque with time and linguistic change. To the extent that this observation is true, there is some value to the suggestion of exploring idiomaticity as a significant factor in the evolution of the Chinese writing system, given that--unlike the writing systems of the majority of the world's languages--Chinese characters continue at some level to make a direct graphic-semantic connection[12] without the mediation of graphic symbols focused totally on the phonological half of the linguistic sign.

FOOTNOTES

1. As idioms are not listed in the index to Chao 1968, I note here for the interested reader pages where the concept of idioms is envoked: 168; 267-8; 287; 306-7; 363; 364; 366; 380; (423-4); (426-7); 457; (467-)472; (489); (492); (518). Idioms are also not listed in the index to Li & Thompson 1981, but see quotations below.

2. *E.g., Cí Hǎi, Cí Yuán, etc.,* as well as *A Chinese-English Dictionary* (Peking 1979).

3. *Zhang Zhigong, Xiàndài Hànyǔ* ('Modern Chinese') Vol. I, Peking 1982, p. 168. A Chinese colleague who teaches English in the foreign language department of a Chinese university has remarked that this is the first time that he has seen this term used to refer to Chinese, as opposed to English. He also notes the possible occurrence of the term *xiguan yongyu* for 'idiom'.

4. See Chao, 1968, p. 143, top six lines.

5. In fact Chao (1968:494-5) tells us that "An interesting lack of parallel development was in the words for 'train' and 'steamship'. When I first heard of these modern inventions, they were called ... *hǔolúnchē* 'fire-wheel vehicle' and ... *hǔolún-chúan* 'fire-wheel ship'. At one stage of the change toward abbreviation, they were called ... *huoche,* but still *hǔolún-chúan;* then finally, *hǔochē* and, not ... **hǔochúan,* but *lúnchúan* ..." [Chao's romanization is here changed to the now more standard *pīnyīn,* -- J.S.R.]

6. In fact, native speaking informants prefer *diànqì hǔochē*, lit. 'electric-steam fire-vehicle', or *diàndòng hǔochē,* lit. 'electric-motion fire-vehicle'.

7. The strict definition of English *tournures* given by Makkai (1972:152-3) as "optimally containing the definite article *the* or the indefinite article *a*" (or sometimes a compulsory *it* is not

relevant here as Chinese does not have the definite/indefinite distinction, nor anything corresponding to English indefinite *it*.

8. A possible parallel in English is so-called Cockney Rhyming Slang in which *brass tacks* signifies *bare facts, butcher's (hook)* signifies *look, rocket* signifies *pocket, etc.* Also, see my *Chinese-English Dictionary of Popular Elliptical Similes (XIEHOUYU)*, in preparation.

9. Unless one wished to make an argument as to the graphic significance of a certain contour of a stroke, or conjunction of strokes, something which I am sure many Chinese calligraphers have done, and which would be analogous to arguments for the semantic significance of onomatopoeic phonemes and phoneme combinations in word formation, *e.g., flicker, flame, etc.*, and the old *"Mummering of innumerable bees ..."*

10. I will ignore twentieth century 'simplified characters' in the present discussion, but the same arguments apply.

11. *Liù Shū*, The Six Scripts, translated by Hopkins. See R. A. D. Forrest, 1965, pp. 37-39.

12. See O. Tzeng & Wm. Wang, 1983, p. 243.

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SEMANTIC DUALITY
Quick(ly) and as-clauses

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1 Language is in a state of continuous development. It is my chief claim in this paper that quick(ly) and as can be adduced to illustrate this dynamic aspect of human language. The primary function of language is to enable humans to create stability out of an inevitable state of flux, a constant flow of perceptions impinging on the senses of human beings. In his use of language, the speaker captures, or "freezes", evanescent perceptions in order to make communication possible. In the form of a word a concept is given life as itwere, and quick(ly) together with the derived verb quicken are singularly apt to illustrate such a process, since these words are concerned with the concept 'life', as in examples (1) - (4). A secondary aim of this paper is to show that this basic "sense" of quick(ly) is utilized by the speaker in a wide variety of contexts. Thus, this word has a much more unity character than is generally assumed, its various "senses" being inferences based on the semantic core 'bring life to'. This is in accordance with the principle of semantic integrity for which I have argued in previous works. This implies that the selection of a certain word rather than another word with the "same" meaning, a "synonym", is determined by contextual factors, whose nature can be established through collocational studies.

2 The creative linguistic acts in which humans "give life" to certain concepts of course presuppose processes of selection in that only those perceptions are picked out for lexicalization which are considered worthy of being communicated. Both as and quick(ly) implicitly refer to such a selective act, since they are both subjected to CONTROL, i.e. a specific perceiver is explicitly or implicitly present in the contexts of these words. A consequence of this is semantic duality. This can be shown in the following schema:

A I saw X, and as I saw X, I realized that I was seeing Y

The collocation and as implies that the perceiver tries to recall every single feature of a selected perception in a retracement of it, thus "raising" this perception in order to process it for a more subtle lexicalization. In my on-going research on as-clauses, based on a collection of roughly 4.000 examples, I have found that

AND as and BUT as are highly significant collocations, which confirms that as has the secondary, selective function that I am ascribing to it here. The function of and as in Schema A is to arrest the flow of perceptions at a certain point, thus affording the perceiver time to process the selected perception in order to concretize, or "give life" to, the resulting concept. It is important to note that Schema A suggests that a more subtle, sophisticated term is chosen for the original, "primitive" X, which is thus CALLED Y. In such a "call"-act, X is compared with a set of likely candidates to function as a "call"-word for X, and it is found that Y answers the speaker's needs most appropriately. I am claiming that the semantic core of as is in all uses COMPARISON, which is an essential concept for human language in that it is a major factor in the constant change any language is undergoing. In Schema A , we are dealing with semantic duality of two types. First, the "primitive" X and the "refined" Y are based on one and the same perception. Second, the two forms of saw, on the one hand, and seeing, on the other hand, refer to the same perception. The progressive here implies an externalization, or objectification, of a perceptual event, i.e. it is being subjected to control, signifying "I see that I am seeing". Thus, the progressive expresses a more obvious referential act than the simple tense saw in that it is assigning a "call"-term to a more or less automatic perceptual act, implying "What I am doing is seeing". There is considerable evidence for the progressive in general having a "call"-act (see Buyssens and Backlund 1984, Ch. XII). It follows from this analysis that as is semantically dual, since it constitutes a bridge between what is being perceived and the processing of this in the speaker's mind, i.e, as both emphasizes the perceptual details underlying a specific name and signifies the very creation of this name. It is easy to see that quick(ly) shares the secondary function of as, representing the specific point at which a name is selected, since "I quickly saw that he was telling a lie" is perfectly acceptable , with see in its secondary, "interpretative" function, whereas quickly is ruled out in:*"I quickly saw the man", where see designates a "primitive", "raw" perception. We note the parallelism with the use of the progressive: "What I was actually seeing was that the man was telling a lie" is a natural English sentence, while *"I was seeing the man" is unacceptable. I will argue that there prevails an exact parallelism between quick(ly) and as as to the kind of semantic duality discussed above, since a large number of linguistic facts back up the contention that quick(ly) both emphasizes the behavioral features underlying a name and marks the point at which the creation of this name occurs.

In my material, become is the main collocate of quickly (see examples (7) - (13)). One of the main theses that I have been advancing in my collocational studies is that the main collocate of a cue word in most cases reflects essential semantic characteristics of that cue word. This is very clearly the case with quickly and become. Become has obviously two seemingly irreconcilable semantic functions in that it both expresses the dynamic, unstable phase of transition,

as in (5), and indicates the durable security once the outcome of the transition is realized, as (6) shows. Similarly, as just noted above, considerable linguistic evidence points at quick(ly) also having a twofold semantic function,representing both the unstable phase of transition and the point at which the term expressing the outcome of this transition is coined. Let us consider three types of such evidence. First, quickly seems to be obligatory in (12) and (13) for these sentences to be communicatively natural and effective. Thus, "we became saddened citizens" in (12) would give the impression of being too abrupt and stylistically inept, leaving a gap that is filled by quickly. In both cases, the words expressing the outcome of the transition are evidently "call"-words; saddened citizens has the flavor of being chosen after a certain period of searching for a more proper term for the unsophisticated designation of the perception, as : "We became sad...", and in (13), the metaphorical cliff also requires a certain period of search for a striking word. Second, as can be seen in a large number of the illustrative examples (at the end of this paper), the head of quick(ly) often has an explicit contextual background, i.e. the primitive perception lexicalized in this head is often specified. Consider for example (16). A natural consequence of this is that the concept expressed by the head of quick(ly) is frequently known, which is formally indicated in (17) and (18) by means of the and these. In (18), the act referred to by "these things" has been described in the preceding context. Third, and most importantly, I have found one example offering direct proof of the claim that quick(ly) calls attention to the underlying behavioral features of a term (example (19)). This sentence could have been formulated differently :"Her disinterest quickly became an active dislike". However, as the example runs, quickened in (19) indicates that quick(ly) has two, seemingly irreconcilable properties: it is both semantically durative and punctual. To reconcile these two features with each other, we have to look at as again.A temporal as-clause is characteristically durative in natue. Thus, for example, my collection of examples with as has established that approach is the most frequent verb in such a clause, and this verb is durative.According to my hypothesis, the as-clause designates the time span during which the perceiver is processing his perception, and this extension is broken at the moment when a term is selected for the concept that is being formed during this time span.This is of course a punctual event. Let us reconsider (16) in order to examine the connection between quick(ly) and as:

B As the plants appear, we see/find/discover/realize/CALL IT they are germinating

In the creative process designated by as, the "primitive" appear as it were gives way to the "processed" appear, as in : "He appears to be right" (see Bäcklund 1982, where I discuss the semantic duality of appear). thus yielding: "The plants appear to germinate", where

appear marks the creation of a "call"-word in the same way as quick-(ly) The deep-seated inchoative nature of this word causes it not only to mark the point of creation but also to call attention to the behavioral features that can be observed before this point is reached, and we see here the parallel with become. Thus, we see that as and quick(ly) have entirely identical semantic functions. Now it is possible to explain the obligatoriness of quickly in (12) and (13): quickly gives its head its "backbone" by referring "backwards" to its primitive origin, thus ensuring for the "call"-word being the head of quickly a natural communicative function. Quick(ly) so to speak constitutes the perceptual "build-up" for a "call"-word by referring to the dynamic conceptualization of the selected perception. Hence, quickly incorporates both the conceptualizing process and the tangible linguistic result of this process, expressed by realize in the following schema:

C As I saw myself and my colleagues helpless and distraught before the dying president, I realized that saddened citizens would be an appropriate name for this picture

It follows from this that quick(ly) in many instances has an evocative power. Thus, the linguistic role of quickly in : "He quickly got interested in the case" is not primarily to express 'high speed', but rather to supply the transition expressed by got with "flesh and blood", vividly evoking in what way an interest awakened, and probably

the preceding context has given hints as to these behavioral features. Likewise, quick in (20) does not seem chiefly to denote 'high speed'; in fact, "give a reminder" does seem to express a less time-consuming act than "give a quick reminder"; rather, its main task seems to be focus on how the act denoted by reminder is going to be performed, suggesting: "Please pay close attention to what I am going to say. Example (21) is highly crucial for our theme in that recalling resonates the semantic essence of quick(ly). The verb recall most aptly represents the retracement of a perception marked by as, since this verb tries to capture an event AS IF it was actually the first unrestricted perception of an event and since it is intentional. However, inevitibly, recall impliesthat there occurs a sifting of features in the retraced perception in that certain features are placed in focus at the expense of others, which may be totally neglected because they are deemed irrelevant. Thus, recall, just like quick(ly) and as, stands for a process of conceptualization, and just as with these two words, the reason for this function of recall is the fact that the process it denotes is controlled, being intentional. Remember, on the other hand, is not controlled in the same way, as is formally indicated by the fact that only remember is allowed in : "He remembered the incident, although he did not want to" (*recalled). Since as represents the retracement of a perception, it is both controlled and concerned with distinguishing certain relevent features in a sifting process. It is precisely the verb recall that justifies the term "call"-word for a secondary word, since a "call"-word always involves a reconsideration of a primitive perception. Thus, in:

"He is called John", the "call"-word John evokes, or recalls, all the earlier perceptions of "John", in particular the first when the identification occurred. Thus, an act of calling X Y involves a recalling of X. It is this property of call that underlies its characteristic occurrence in such constructions as : "That is what I would call X", indicating reflection. Now, consider the role of quick in collocation with recalling in (21). In accordance with the discussion above, quick gives "flesh and blood" to its head, ensuring that the reperception is taking place, AS IF it was actually the original perception. However, the inchoativeness of quick causes it to operate in the opposite direction at the same time, emphasizing that the sifting process is carried out as effectively as possible, at a high speed. Here, the semantic duality of quick is reflected in an interesting respect, since it affects its head in two different ways. Since the verb recall shares the semantic duality of quick, it may be asserted that quick in this collocation merely functions as an intensifier. Interestingly, one of the most conspicuous properties of quick(ly) is its contextual sensitivity , its context containing words with almost identical meanings, as in quick dash/patter/tapping, where the noun collocates copy an essential semantic property of quick.

3 It follows from the above discussion that quick(ly) tends to prefer heads that are selected secondarily. There is a paradox involved here since the primary function of quick(ly) is not to assign properties to the process of an act, as is the case with swift(ly), for example. Rather, quick(ly) merely marks the selection of its head, which is combined with a dynamic function, as we have seen, quick(ly) also as it were calling attention to the motivation for the selection of its head. The "interpretative" function of the heads of quick(ly) may be illustrated in the following schema:

D He heaped up a lot of things, accumulating them as he did so

This is a kind of "deep" structure of example (22), and this sentence pattern, with an amplifying -ing-form preceding the as-clause, is pertinent to my theme in two respects. First, the repetitive did so manifestly indicates that as expresses a retracement of a perception. Second, the -ing-form is a symptom of the verb in this position being selected secondarily, since it coincides with my claim that the progressive characteristically has "call"-status. As my research on as-clauses has shown, schema D is an extremely frequent sentence pattern for as-clauses. Let us consider in some detail my claim as to the "call"-status of the progressive. Consider the following examples:

E What I am saying is Y

F You are being sarcastic

G I was hoping you would have lunch with me

H I hoped you would have lunch with me

I If we did this, we would be dealing with a serious problem

E and F exactly fit Schema A with the difference that say replaces see: "I said X, and as I said X, I want you to realize that I was saying Y". Just as is the case with seeing in Schema A, saying here is an externalization of a previous, more or less automatic, act in that the utterance referred to is made into an object of observation for the speaker as well as his interlocutor(s), and thereby the progressive saying achieves a secondary reference, parallelled by the fact that Y is referring to X. Y constitutes an elaboration of the previous utterance, and thereby, E has an argumentative function, since the speaker wants to clarify a point he had made in his utterance X. F is a comment on an utterance by another person, expressing an interpretation of the attitude accompanying that utterance. There is a stylistic difference between G and H in that G is considerably more cautious in nature than H, which is blunt almost to the point of causing offense.The reason for this is that the speaker in G is adopting a more objective attitude, taking his own act 'hope' into consideration.This externalization increases the distance between the speaker and the act 'hope'. Finally, I, which is a very common sentence pattern, exhibits an exact parallelism with Section IV of my examples in that the progressive occurs in a hypothetical situation.Furthermore, it sheds light on the pertinence of as for "call"-words, since the progressive may be equated with an AS preceding the IF; as if characteristically marks linguistic creativity. It seems to me that the primary function of the progressive tense, rather than expressing a temporal aspect, as is generally assumed, is to indicate animmediate reference. Such a referential function presupposes control by a perceiver (cf. Buyssens, and Bäcklund 1984, Ch. XII). The transfer of tense from said to am saying in E supports another point I will make below in that the progressive is applied only after the completion of the processing of an act.

4 The collocation of quick with way (see (23) - (27)) offers further evidence as to the semantic duality of quick(ly). Six properties of way are relevant.First, the verb follow in (23) possesses the time extension I have ascribed to as, which is natural in view of the fact that way is likely to retain its old "sense" 'path'/'road'. Second, (24), for example, shows that way frequently occurs in sentences that are subjected to control, since 'intention' is involved: "sanding away...," is a way of solving a problem. The analogy with cases discussed above lies in the fact that "producing" is a property of the suggested method: "As we sand away..., we will be producing..."Intentionality is one of the most prominent characteristics of quick(ly), e.g. in "As he sensed the danger, he quickly left the room". Third, in several of the cited examples, way is preceded by the definite article, indicating that it has a perceptual/contextual background, just like quick(ly),which has either been specified in the context or which is simply present in the speaker's mind. Fourth, examples like (27) - (29) suggest that an established way in which an event proceeds is frequently in turn subjected to a tentative analysis. Of

course, this is related with the fact that way is often "known", which tends to assign to phrases with way merely a parenthetical status, the focus being directed on some other feature. As we will see, phrases with quick(ly) often have a similar parenthetical status. Fifth, way attracts metaphorical heads, as in (31), which represents a very frequent sentence pattern, "to X one's way", where X is, as a rule, realized by a secondary "call"-term. This suggests that the establishment of the way in which an event proceeds occurs only after completion of the event. Hence, way has a holistic implication, in that it refers to an event as an entity, describing it as a whole, all the way. Its "synonym", manner, on the other hand, is concerned with the processual aspect of the verb, and, in fact, the manner in which an act proceeds can undergo changes into other manners before the act is completed (see Bäcklund 1978 b). Thus, manner is, as it were, operating on a lower perceptual level than way, and prior to producing the rather sophisticated designation of the act in (31), the speaker might have formulated his impression more primitively, as in: "He ate in a noisy manner". Then, if the speaker wants to communicate his impression more strikingly and effectively, he will produce (31) on the basis of the primitive variant: "As he is eating in a noisy manner, I realize/CALL his behavior 'slurp his way'". Sixth, way can be used to intensify gradable verbs, i.e. verbs containing an adjectival feature (elude in (32) can be analyzed like this: 'be so tricky as to avoid being captured'). It should be noted that way in this function can be replaced by so: "The way he smokes!"/"He smokes so!" Here the parallel with the collocation quick recalling, discussed above, can readily be seen, way having the same intensifying role as quick with recalling, vivifying the behavioral features that are expressed by elude, AS IF the first instantiation of the act could be seen in all its concrete details, at the same time marking the creation and the appropriateness of the verb smoke (cf. : "Gosh, that guy really smokes!"). An interesting point is the fact that such "adjectival verbs" as elude (capture) and shirk (duty/responsibility) tend to enter "frozen" or "semi-frozen" collocations. A plausible explanation of this is that the noun constituting the only, or very markedly the predominant, noun collocate either appears in the implicit preceding as-clause expressing the sifting process, as in: "As he trickily avoided being captured, I realized he was eluding capture", or that the as-clause is processed twice, yielding two semantically similar forms which are later linked in a "frozen" collocation. Hence, a circumstance that provides us with further evidence as to the secondary status of the progressive is the fact that -ing-forms tend to form such collocations: raving lunatic/blithering idiot/blistering/piping/scalding/sweltering hot/roaring drunk/hopping mad etc., where the adjective/adverb is evoking a typical behavior of the state denoted by its head. A relevant point in this context is the noted contextual sensitivity of quick(ly). Another illustration of this can be seen in (30) , where way and quickly share the properties of directing the attention to the behavioral features underlying perk up and of marking the appropriateness of this term. A similar copying of features can be observed in (36) - (38) with metaphorical heads. Example (38) is particularly interesting since it

gives us yet another piece of evidence as to the semantic duality of quick(ly). If this assumption about quick(ly) is correct, we ought to find examples where the behavioral features are secondarily lexicalized as well. (38) is precisely such an example. Here, quickly in the underlying phrase, "quickly communicate", is transferred to modify impressions, but before this transfer takes place, quickly transforms "communicate" into spoon out , which copies features in quickly. Examples (33) and (34) show that quick(ly) seems to be enjoying an independent status, which allows superimposition of qualifying adjectives. This fact supports my claim that quick(ly) is closely related with way. As mentioned before, an established way is characterized in a tentative manner in (29) and (30).

5 It will be obvious now that I am claiming that the notion 'high speed' is merely an inferred sense from the inchoative aspect of quick(ly). Such an inference is a quite natural one, since an inchoative aspect is apt to imply such notions as 'readily' and 'at a high speed'. But it is important to note that the vast majority of collocational patterns of quick(ly) suggest that this word is retaining its basic sense 'give life to'. A circumstance that bears witness to its secondary and independent status is the fact that quick(ly) is connotationally rich. This word seems to suggest such notions as 'ease', 'nimble', 'deft', and a 'shallowness of feeling' (cf. the frequent collocation quick wits). The independency of quick(ly) is exemplified in (40) - (44). Here, quickly denotes a 'high speed', rather than merely marking the dynamic selection of its head. Even so, its independent status is rooted in the fact that quick(ly) is a secondary word, and thus connected with an as-clause: "As he acted, he did so quickly". We should note another aspect of the peculiar semantic polarity of quick(ly): in the cited examples, quick(ly) plays a fairly prominent role, whereas in other cases, it has merely a parenthetical status.

6 The remainder of this paper will be devoted to showing how a painstaking and fairly exhaustive collocational study of quick(ly) servesto prove the points I have been advancing in the preceding paragraphs.

6.1 The examples in Section I demonstrate the important fact that quick(ly) is subjected to control. The major manifestation of this is the fact that quick(ly) is intentional in nature, as will be seen in I a). 'Intention' should be given a wide interpretation. Thus, notice in (73) may be termed an intentional verb, since the perception denoted by this verb presupposes a readiness in the perceiver, thus testifying to the basic reactive nature of quick(ly) (see below). Alternatively, the reactive implication of quick(ly) is expressed in the presence of certain necessary circumstances, as is the case with the when-clause in (73). Indeed, the very fact that quickly is allowed as a collocate of notice is evidence that this verb presupposes a certain perceptual processing, since the adverb does not collocate with the "primitive" see, *"I quickly saw

the car". It will readily be seen that the majority of my illustrative examples suggest this intentionality. Thus, for instance, (93) concerns a machine which is specifically designed with a certain purpose in mind. In Section I b), an element of assessment or evaluation constitutes the controlling factor. This sheds light on what I will call the abstract use of quick(ly), since the act referred to in e.g. "I think he can act quickly" is an abstraction from experiences of other acts. Thus, here also the comparative aspect of quick(ly) is evident, since the entity quick action is compared with the other members of the set of experienced actions. Another collocational fact that supports the claim that quick(ly) has such a comparative aspect is its collocation with relatively, which is explicitly associated with 'comparison' (see, for example (52)). As usual, this can be illustrated by means of as: "As compared with other acts in my experience, this one occurred at a high speed". This adverb does not seem to be collocable with quick(ly)'s "synonyms" fast, rapid(ly), and swift(ly). Properties of this type contribute to justify my claim as to the close relation between quick(ly) and as.

6.2 It is the intimate relation with the concept 'comparison' which causes quick(ly) to serve as an effective illustrator of general semantic phenomena. The semantic duality of quick(ly) of referring both to the primary, "raw" perception and to the creation of a "call"-word based on this perception has a parallel in the fact that quick(ly) is semantically dual in a more general way by being concretely evocative in a large set of examples as well as highly abstract in another set of examples. Consider in particular the fact that quick(ly) often modifies a specific link in a chain of verbs, as is shown in Section V. These two, seemingly contradictory functions of quick(ly) correspond with two general semantic properties of a language: the continuous creation of new words and phrases and the established conventional use of established words and phrases. The former property of quick(ly), which is illustrated in Schema A, is manifested collocationally in examples (65) - (68). Like in (65) and (66) of course indicates that a specific perceiver deliberately calls attention to an act that has just been perceived. In (67) and (68), the two adjectives striking and maneuver, which are obligatory for quick to be used, focus the attention on imagined behavioral features, thus illustrating both the concreteness and abstractness of quick(ly): "As compared with other distances, this is one at which a division can strike quickly". Such contexts show the general contextual cohesiveness of quick(ly), since, being an abstraction of all perceived acts "strike", the concept "quick strike" has the character of forming a tight unit. This is even more obvious in such an example as (62), where the implication is: of all the acts "unwire" that I have witnessed this one that I have in mind is a "quick unwiring".

6.3 The collocation that most unequivocally exhibits the comparative aspect of quick(ly) is of course the surrounding as...as

(see (58) - (61)). The first as stands for an act that is to be compared with something, and the second as anticipates the object of comparison. This entity is known, having been established in the perceiver's earlier perceptual experience. Alternatively, it can represent a conclusion that is made as an act, or the perception of an act, is going on, as in the frequent collocation with possible and can/could, as in (61): "now I know my maximum speed of climbing". Walking in (60) illuminates an important point about quick(ly), indicating both the intention and the perception of the act representing the fulfillment of the intention. This double function can be illustrated by the characteristic collocation as & realize (see Bäcklund 1984): "As I am walking, I am realizing my intention of doing so at maximum speed"/ "...I realize that I am doing so at my maximum speed". The first paraphrase, specifying the fulfillment of the intention, is based on the second "intellectual" realize, as is reflected in the use of the progressive in the former paraphrase, which marks that the act walk is externalized in such a way that the fulfillment of the intention is being seen by the Actor.

6.4 The reactive implication of quick(ly) is just as relevant for my claim as to the semantic duality of this word as its relation with the concept 'comparison' (see Section III). This aspect of quick(ly) is significant in two respects. First, as can be gathered from Schema A, a creative linguistic act is a reaction on a conspicuous perception. Second, the reactive aspect of quick(ly) has a bearing on the fact that quickly often modifies a link in a chain of verbs (see Section V, which illustrates this SERIALITY). In such a series of verbs, there is a causal link between the members in that the preceding verb in the chain contains the embryo of 'life' for the subsequent verb, and often the speaker feels the need to express this causality by means of quickly to ensure a natural flow of communication. Similarly, there is a causal link between the stimulus of a reaction and the triggered reaction, since a certain stimulus imposes restrictions on what type of reactions it can release. Likewise, in examples with quicken, the noun has in it a disposition under specific circumstances. Thus, sap in example (3) is likely to appear under the influence of the sun in spring, as the example indicates. Also, disinterest in (19) contains the "embryo of life" for the concept expressed by dislike. As can be seen in (72), the typical contextual cohesiveness of quick(ly) is related with its reactive nature: both quick, which has been transferred "backwards" to refer to the Agent, and survivor anticipate the perception expressed by the secondary see. The transfer of quick suggests a predisposition in the Agent to react in a certain way. In the perceptual and conceptual act illustrated in Schema A, the "embryo of life" in the selected perception is of course its conspicuousness, which causes the constant flow of perceptions to be arrested, together with the semantic nature of this perception which imposes a certain restriction on the set of candidates for realizing a "call"-term. Hence, quick(ly) retains its reactive implication in all its uses by dint of the fact

that it is at bottom inchoative in nature. Two other things pertaining to the reactive nature of quick(ly) should be noted. First, quickly can modifv the secondary verb of perception itself, as in (69 - (72). (Note specifically that the stimulus of the reaction is explicit in (71), as can be demonstrated by as: "As you accept..., you will see..."). Second, quickly modifies the resultant act of the basic perceptual reaction, as in (78) and (79). This reflects the essential pragmatic nature of language, expressing how people react on secondary perceptions, which are in turn reactions on "raw" perceptions. The verb realize can illustrate these two types of reaction. Realize in Schema A represents a specific point in the time span expressed by and as I saw X", namely the point at which a lexicalization occurs. There is good reason to ascribe exactly the same role to quick(ly) with the addition that this word marks the early, effective occurrence of such a point. Of course it is this additional feature expressed by quickly that makes it collocable with see and realize . The "pragmatic" use of realize, as in realize a dream/plan etc., can illustrate quickly exploit in (78): "She saw the kind of situation she was in, and as she saw this, she realized it was an exalted position, and she was realizing it by exploiting it". Only the "pragmatic" realize can occur in the progressive, and I am claiming that quickly marks the application of the progressive of this realize. Three circumstances suggest this. First, as noted above quick(ly) marks the incidence of a "call"-word at a specific point in a time span expressed by an as-clause. The progressive is called upon to express this durative aspect : "As she was realizing..." Second, the progressive of realize indicates the presence of a perceiver, who is responsible for the incidence referred to in the preceding point. Third, the progressive implies an externalization of the act, which means that the Agent perceives himself acting: "I see that I am realizing..." This accounts for the ubiquitous intentionality of quick(ly), which implies that the Agent is completely aware of his own act. Often contextual features indicate such an awareness (see example (185)).

The stimulus of the reaction marked by quickly is often stated in the context. Thus, for example, in (80), intensely vivid motivates absorption. Other instances of this are the as-clause in (86), the words expressing emotions that release an act in (90), which can be shown by means of an as-clause: "As they were aghast...", after & stimulus in (91) and (92), and, finally, the and following the explicit stimulus in (95). Rapidly in (97) focuses on the processual aspect of the verb, thus suggesting time extension, and just as is the case with the as-clause, quickly punctuates this extension, leaving the act uncompleted. This can be represented in the following way: "As the Americans slowly prepared a deal with,.., Moscow quickly rearmed the Syrians". Finally, responsive in (96) manifests the characteristic contextual cohesiveness of quickly, since this word denotes a reaction in itself and since the phrase with quickly here is elaborating the preceding alive.

6.5 One of the most conspicuous collocational features of quickly is the fact that it is surrounded by and as it were, as can be seen in V a) and V b). V a) is a further collocational manifestation of quick(ly)'s reactive nature. This is of course rather obscure in cases where the material preceding and does not readily suggest the stimulus of a subsequent reaction. Nevertheless, quickly signifies that the preceding act contains the "embryo of life" of the designation of the subsequent act, thus emphasisi zing a natural seriality. Example (113) is particularly interesting, since quickly here marks a belated perception of an act that is already in full swing. The reason for such a delay of a perception is probably its repulsive, horrible nature, blocking an immediate reaction. As usual, quickly punctuates the time span expressed by "and as they saw", thus marking a discovery of what was actually going on right in front of the perceivers' eyes. Such a belated discovery necessarily implies that the verb denoting the perceived act is realized in the progressive tense, since the progressive describes an act that has already started before being perceived and lexicalized. It follows that quickly in collocation with a verb in the progressive supports my contention that the progressive is typically subject to control, just as is the case with quick(ly) and as, i.e. a perceiver is explicitly or implicitly present. Another feature of example (113) is that it specifies the contextual background for retreat, "dragging...", which is precisely the material causing the blocking of its perception and of the lexicalization of retreat. The fact that and also has an obvious tendency to follow quickly (see Section V b)) is a collocational manifestation of the "raised" status of quickly in that quickly in these examples lends such a degree of prominence to its head that it is likely to have a continuation. It also has a bearing on the intentionality of quickly, since the verb following and is likely to specify an intention. Thus, in (119), the girl shrugs off her basket in order to take out the sling. As shown by (124) and (125), and can also anticipate a specification of the behavioral features underlying the "call"-word whose production is formally marked by quickly . These examples effectively illustrate the semantic duality of quick(ly). My extensive collection of examples for another paper shows clearly that rapid(ly) and swift(ly) are concerned with the process expressed by their heads whereas quick(ly), with its "raised" status and "broader outlook", often merely anticipates the result of a certain act, as in (123) . In this example, the descriptive function of swift is marked by the fact that the starting-point and the end-point of a movement are stated, implying that the movement is described as such by swift. The anticipatory function of quickly can also be observed in (126), where quickly obviously emphasizes the "pragmatic" interpretation of sense: "He was realizing X by making himself inconspicuous". Section V c), finally, patently demonstrates the seriality of quickly.

6.6 Sections VI a) and VI b) provide us with ample evidence for the argument that quickly has the function of marking the incidence of an act rather than describing the process of such an act.

This function is indicated by many of the collocations in my collection of examples, but perhaps most clearly by the collocation of quick with way, which we have discussed above. Thus, that collocational observation in combination with what we can observe in Sections VI a) and VI b) constitutes an example of how two diverse collocational observations support each other, leading to important and more safe conclusions as to the semantic nature of the cue word. Such mutual reinforcements constitute the essence of the collocational method that I have been using in a number of studies.Let me now briefly comment on a few of the examples in these sections.As I have shown earlier (see Bäcklund 1977), contrasts often trigger off the use of "call"-words. For certain reasons, such a contrastive function in language can be illustrated aptly by "negation of a negation", where the superimposed negation represents a conspicuous feature calling forth the use of "call"-words. As I have demonstrated in Bäcklund 1984, realize has at bottom such a contrastive function, and I have argued in that work that realize can appropriately illustrate all kinds of processes of lexicalization.Now, a striking contrast is obviously expressed in (157), which states that it was found by the Americans that Castro had stationed NOT not many soldiers on Grenada before the American invasion.The "blown-up" NOT marks the point of lexicalization signified by quickly. In (146), both the secondariness and the intentionality of quickly is in evidence, ferret out being a variant of the preceding context and the collocation and see expressing the intention.Example (162) testifies to the contextual cohesiveness of quick(ly) both in the fact that ran up copies a semantic feature of quick(ly) and in the fact that slouch designates a person who is "not quick"; thus, the judgement no slouch is confirmed by quickly ran up.

6.7 In Section VII those examples have been registered that seem most clearly to reflect the inchoative aspect of quick(ly).The following points are to be specifically noted. First, quickly has a tendency to cooccur with verbs of utterance, which is also a significant collocation of as-clauses. (see examples (163) - (165)). Second, in (164) and (165), quickly's characteristic function of punctuating a time span is utilized by the encoder to cause a period of hesitation to be punctuated by means of quickly, thereby suggesting that the utterer in question wants to conceal the fact that a certain hesitation has arisen. Third, collocation with begin (example (166)), just like quickly start in (83) and (84), expresses repetitively the incipience of an activity. Fourth, fast in (174) describes a process, whereas quickly merely marks the occurrence of go flat, which is a resultative verb: "As the ship moves fast, the batteries quickly go flat". Fifth, note collocation of quickly & verb with as in (175) and (176). Sixth, collocation with apparent and appear in (179) and (180) gives support as to the semantic duality of quick(ly), since appear is semantically dual itself in that it is based on a a "primitive" appear. Thus, in a sentence such as : "He appears to be right", this secondary appear is based on the "primitive" appearance of certain evidence that lends support to the judgement expressed in

the sentence with the secondary appear. Likewise, in (181), for example, it is the various specified acts performed by different doctors that appear first, followed by the comprehensive designation work, which appears secondarily to cover the specific underlying acts (see Bäcklund 1982). Seventh, example (178) testifies to the utter freedom that characterizes a creative linguistic act, since it shows that the speaker, when processing a perception in a retracement, is at liberty to choose any aspect of the basic perception for communicative use. In this example, the speaker chooses to comment on the fact that it takes a short time for the team to reach a certain speed designated by fast. This examp - could be rephrased like this: "As I see their high speed, I realize and marvel at how short time it takes for them to reach this speed". We also note the PRO-form so, referring to the underlying perception. Eighth, collocation with moves in (184) confirms the inchoative nature of quick(ly), since the noun move cannot be substantiated, i.e. it cannot describe an act as a process. *Swift/ nervous/jerky move, for example, are all unacceptable collocations, whereas movement, which allows substantiation, would be perfectly acceptable as a noun collocate of these descriptive adjectives.

7 Such minimal pairs as quickly/swiftly left and rapid/quick succession as we are confronted with in Sections VIII and IX are apt to give us valuable clues as to what situational and contextual factors determine the choice of one particular form rather than one of its "synonyms".

Example (185) is an extract from a text describing a person snooping in a library. Such a deliberately clandestine act requires self-control, coolness, and caution of the Agent, and our example reveals that the Agent possesses such qualities. Thus, the short sentences expressing a series of acts indicate a cool, carefully planned activity. Moreover, it is suggested that the ticking of the clock serves as a warning, bidding the intruder to take his leave from the room. Consequently, this example exhibits the intentionality of quick(ly) very effectively. Moreover, we are dealing with the seriality of acts, logically linked together, where quickly is likely to crop as as a modifier of one of the verbs denoting an act. The stimulus of the reaction here can be expressed in an as-clause: "As he heard the ticking of the clock, he quickly left the room". Example (186) describes how a man is carrying out a plan whose purpose is to test if his wife is still prepared to assume a certain responsibility for her husband in spite of a severe crisis having arisen in the marriage. The context in (186) shows unequivocally that the wife's decision to pick up her husband's pants is taken very reluctantly and on the spur of the moment. Also, a certain feeling of annoyance is accompanying this act. As a consequence, the woman's departure from the scene is not at all deliberate, calculated and marked by self-control, as in (185). Rather, the departure in (186) is uncontrolled, almost to the point of being panicky, as is suggested by flushed and unsteady in the last sentence of the example. This is in keeping with the observation I have been able to make on a large number of examples with swift(ly) as to this word being used in situations where a strong emotion, which is indicated by contextual features, sweeps away a person,

who is thus deprived of control of his act. Furthermore, the obvious strong reluctance that precedes the act of picking up the pants confirms a thesis I am advancing in my forthcoming work on adjectives/adverbs expressing 'high speed', namely that swift(ly) has essentially a contrastive function, representing NOT in NOT not. It will be seen, then, that the situational featuresmotivating quickly and swiftly in these two examples are downright contrastive in nature, and this is confirmed by a study of a comprehensive collection of examples with the two adverbs.As for rapid and quick in collocation with succession in (187) - (190), these examples seem to confirm the statement made above that rapid is exclusively concerned with describing the process of an act, which has as a consequence that rapid succession constitutes the semantic core of (187) and (188), manifested in the fact that the rapidity is elaborated on in both examples: in (187), the collocation serves to illustrate the adjective prolific. Quick, on the other hand, in accordance with the noted fact that this word often is given an abstract status, which is intimately connected with the fact that quick(ly) quite frequently refers to a known phenomenon, as we have seen above.

8 It has been argued in this paper that quickly is obligatory in certain examples for a metaphorical phrase to be communicable, as we could see in example (12). Here, quickly serves as a bridge between a primitive perception and its secondary designation, or, since the creative linguistic act marked by quickly is a controlled act, implying the presence of a perceiver, it may be said that quickly serves as a bridge between a primitive perception and the process of conceptualization of this perception in the perceiver's mind. I have argued that there are similarities between quick(ly) and other features in English that are involved in creative linguistic processes, e.g. realize and the progressive. Typically, realize is relevant for the kind of "belated discovery" that quick(ly) sometimes marks in that realize, as I have shown in Bäcklund 1984, is always characteristically preceded by a period of dormancy, during which the perception that is about to be realized in a term is being processed. Realize collocates significantly with as-clauses. Such a dormancy is manifested in collocations such as: "Only after some time did he realize..."/ "It took him a few moments to realize..."/"I didn't realize..." etc. (see Bäcklund 1984). Quick(ly)is related with the progressive in two respects. First, Schema constitutes a "deep" structure of example (22), from which we conclude that quickly has the same sifting function as the as-clause here, at the same time marking the incidence of the "belated discovery" : "If you 'heap up things', you are accumulating them" (cf. here example (22) with quickly. Second, the progressive shares with quick(ly) its seemingly contradictory nature in that it, besides denoting a "belated discovery", has an anticipatory function, where it is more manifestly inchoative in nature. Consider the following examples:

J "It's almost happening already." (From the movie "Brief Encounter" on American TV, 20 August 1984)

K "We must be going now." (From the Movie "Brief Encounter" on American TV, 20 August 1984)

L "I'll be seeing you." (A common phrase)

The adverb almost is a typical marker of "call"-words (see Bäcklund 1978 b). A plausible explanation why the progressive has an inchoative function might be thatits status of being controlled implies that the speaker is at liberty to "play around"a little with reality, thus evoking a picture of what is going to happen in the future.

It has also been hinted at above that quick(ly) shares some characteristics of so-called "frozen" or "semi-frozen" collocations, a phenomenon I have been concerned with in much of my earlier work (see, for example, Bäcklund 1975 and 1981). Let us take a closer look at these similarities by considering the following example:

M Black people have recently begun refusing being denied the services extended to white people. This bold self-assertiveness is an entirely new phenomenon

I am arguing in Bäcklund 1981 that this example (slightly altered here) contains a "verbal adjective", bold,which is obligatory to make the example an entirely "natural" text. A "verbal adjective" (cf. the term "adjectival verb" used above)is an adjective that is immediately capturing a preceding context, as in M, where bold crystallizes the self-assertive act that is specified in the preceding sentence. Most "verbal adjectives" are -ing-forms, which in many cases are nonce-forms, thus indicating that these adjectives are the products of creative acts occurring at the moment of speaking. Consider: "He thanked them for their unmurmuring endurance"/ "It was cold. The smoke rose in an unswaying column."(Both these examples are cited from BC in Bäcklund 1981.) Such examples of course tally with my claim that the progressive is often resorted to in creative linguistic acts and that it is, consequently, controlled by an individual perception. The "verbal adjective" bold in our example has the following similarities with quick(ly). First, it is obligatory, since the message without bold appears to be clipped or abrupt, leaving a disconcerting gap. Second, there is for bold a specified underlying context. Third, a consequence of the preceding point, it occurs in a phrase expressing something known, formally indicated by this in M. Fourth, being secondary in nature, it requires for its certain time span, during which the speaker is processing the perception in order to give it an apt designation. Such a delay can as usual be indicated by an as-clause(cf. its characteristic collocation with realize): "As I saw act X, I realized I could CALL it BOLD/"... I realized it by CALLING it BOLD".

Fifth, as the preceding sentence shows, bold is dominated/controlled by an individual perception. Sixth, bold modifies a noun copying essential semantic features of its modifier , thus creating a certain redundancy, which is natural in view of the fact that both items stem from the same underlying perception. As we have seen, quick(ly) is also characteristically contextually cohesive, as is shown in such collocations as quick dash/patter etc. Compare also such constellations as "toadies who quickly gratify you" in (177). "Frozen" collocations resemble quick(ly) in a striking way in that they serve the double function of concretizing a concept as effectively as possible and of being used in a highly abstract way after developing into cliches.

In summary, this paper provides another support for the claim that words enjoy semantic integrity, which implies that every text contains factors motivating the choice of one particular word rather than its "synonyms". "Synonyms" are never interchangeable. But, more importantly, I have tried to show that quick(ly) and as-clauses, or rather, as in general, can be adduced to shed light on the innermost property of language, its dynamicalness, its nature of being subjected to constant development and growth through creative linguistic acts, which increase its communicative capacity. It is this dynamicalness that has caused many to compare language with a living organism. But, as I have tried to show, this organism is not autonomous; it is controlled by the perceptions of human beings.

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ILLUSTRATIVE EXAMPLES

(1)...shall judge the quick and the dead. (W)
(2)Warm spring days that quicken the earth. (W)
(3)Sap quickens. Ice melts. (The New York Post)
(4)His words quicken; his voice grows a decibel louder. (The New York Post)
(5) We do not know our identity since we are always in a state of becoming. (W)
(6) What becomes has duration. (W)
(7) ...the two of them quickly became fascinated with each other. (Larry McMurtry)
(8) Big, strong, good-looking, and affable, he had joined the Irish-dominated police and quickly become popular. (Fred Mustard Stewart)
(9) IU has seen how quickly speculation can become feverish in Gulf's youthful institutions. (The Economist)
(10)Since the Spaniards were dominant and since only they had the guns and the churches, the culture quickly became predominantly Spanish: language, military organization, religion, ways of doing business were all Spanish. (James Michener)
(11)But the cost of entering new areas is staggering and no one on Wall Street has been able to answer the question: can brokers who know stocks and bonds quickly become experts on life insurance...(Irwin Shaw)
(12)One of the doctors who treated John F Kennedy at Parkland Hospital says the physicians quickly became saddened citizens when it was apparent the President could not be saved. (The New York Post)
(13)And the plateau the Knicks were hovering at a few weeks ago has quickly become a cliff. (The New York Post)
(14)When he found the bottle, it was empty. (*As) (Concocted example)
(15) As he found the bottle, he discovered it was empty.(Concocted example)
(16)They germinate quickly, the tiny plants appearing in a week.(BC)
(17)They abruptly began to thrash the water and the quick movement made them slowly sink. (BC)
(18)...while his body did these quick, appalling, efficient things(BC)
(19) Dottie had never been interested in sex anyway, and when she turned forty-five, her disinterest quickened as it were and became an active dislike. (Larry McMurtry)
(20) "Now, finally, let me give you a quick reminder what you should do." (American TV, 20 November 1983)
(21) Faulkner does show his awareness of the changing order in the South, as a quick recalling of his Sartoris and Snopes families will show. (BC)
(22)He quickly accumulated a lot of things. (Concocted example)
(23) There is no quick and easy way to follow from the oxcart to the jet plane. (BC)
(24)...then sanding away the top layer is a quick and economical way to produce a two-color sign. (BC)
(25)Lewis decided to give a party as a quick way of rounding up his friends. (BC)
(26)...which she said was the quickest way to draw out the heat. (BC)
(27) It had something to do with her back, the thinness of it, and the quick jerky way she bent. (BC)
(28) And there are no marks on hom of what he has been through, no hints in the good-natured clumsy way in which he behaved of what was ahead of him. (BC)
(29) "Something in the way she moves..." (Lyrics of a tune by Lennon/McCartney)
(30) He didn't like the way she perked up so quickly. (Larry McMurtry)
(31) He slurped his way to the bottom of the bowl. (BC)
(32)The way he eluded capture! *The way he avoided being captured! (Concocted examples)
(33) Moving with an almost animal quickness...(BC)
(34) The lurch did not reduce his feline quickness with the gun. (BC)
(35) Moving quickly by Sovirt standards,he emerged as a leader immediately. (Newsweek)
(36) She quickly moved into Cafe Society. (BC)
(37) The senate quickly slipped through its meager fare of bills. (BC)
(38) Charlie spooned out some quick impressions of the Nikita he had seen. (BC)
(39) She had something wrong with her eyes and she blinked them, quickly, again and again, all the time. (Irwin Shaw)
(40) Then, quickly, before she lost her nerve, she aimed for a spot between his eyes and flung the stone. (Jean M Auel)
(41) Often her casual glance caught someone staring at her before they turned aside, quickly,and few spoke to her unless it was necessary. (Jean M Auel)
(42)...had to find a donor, and usually very quickly, whose blood corresponded exactly with the patient's. (Time)
(43) He rose from his chair, took off his coat. Quickly, he went into the bedroom. (Irwin Shaw)
(44) Hardenburg cleared his throat as though he was going to make a speech, then walked up to Knuhlen, looked at him deliberately, clubbed him twice, savagely and quickly, across the eye. (BC)

I DOMINANCE/CONTROL

a) Intention

(45) "Well," he said, speaking reluctantly, "he was supposed to read the manuscript over the weekend, and he is always so punctilious about getting his manuscripts read quickly, but on Monday morning he threw the manuscript on my desk and asked me to read it. (Irwin Shaw)
(46)Sometimes, in cool moments, Emma wondered if it might not be possible to reverse his priorities: get him to his sex slow and other things quick... (LarryMcMurtry)
(47)Vital questions would be quickly answered according to a preprepared agenda. (Jean M Auel)
(48) The desire of India to accumulate as quickly as possible a substantial part...(BC)
(49) Now, come, Garry, we must go quickly. (Larry McMurtry)

(50) Food, medical supplies, utensils, and equipment must be quickly gathered and carried into it. (BC)
(51) Then peering from the door and seeing no one coming, Kunta hastened inside to climb quickly to the hayloft. (Alex Haley)

b) Assessment/Evaluation

(52) The Indian brought with him from india neither a culture nor a religion whereas the black brought both from Africa - a poor culture and the wrong religion - but nevertheless some structure upon which he could build a base from which he could relatively quickly learn to operate. (James Michener)
(53) This represents a loss of three quarters of a million dollars, but we are prepared to absorb it in the faith that from a second start we can quickly recover . (James Michener)
(54) They doubted that the enemy would be able to react quickly enough. (Irwin Shaw)
(55) However, since the snake was obviously close to death, she judged that she could quickly finish it off. (James Michener)
(56) He might not be able to act quickly enough. (BC)

c) Hope

(57) The world hoped that the Congo would quickly assume a respectable position. (BC)

II COMPARISON

(58)...and to reduce it as quickly as possible. (BC)
(59)...a problem to be solved as quickly as possible. (BC)
(60) Walking as quickly as he could...(BC)
(61) He climbed as quickly as he could urge his body...(BC)
(62)...but Johnson couldn't quickly unwire the door... (BC)
(63) How quickly could the freeze be put into effect? (BC)
(64) "The sooner you act like an angel, the quicker you'll feel angelic." (American TV, 12 December 1983)
(65) She surprised him again when she came back so quick like must have because...(The New York Post)
(66)"When you kick the ball quickly like that..." (American TV, 10 December 1983)
(67) The Soviets would use only the 67 divisions at full strength that are normally stationed within quick striking distance of the West German frontier. (Newsweek)
(68) Hart had presented an intricate "military reform" package designed to switch strategy away from powerful weaponry and toward quicker "maneuver warfare," while linking Pentagon spending to the inflation rate. (The New York Post)

III REACTION

(69) Let me admit it: I quickly could see your rightness, and my wrongness. (Ellis/Harper)
(70) Not all clients, like Geraldine, see so quickly that they cause their own depressed feelings about divorce and decide to accept themselves. (Ellis/Harper)
(71) In these circumstances merely accept the returned fear, actively fight against it, and you will quickly see, in most instances, that it will return to limbo. (Ellis/Harper)
(72) He is a survivor : he was quick to see that Andropov had locked up the succession 15 months ago, and was the first to nominate him. (The New York Post)
(73) You'll quickly notice Turkish mosques when walking around. (Time)
(74) ...but I quickly became aware that this patient probably knew his body better than I did...(Norman Cousins)
(75) I very quickly discovered that he is a very skilful man. (BC)
(76) We quickly discovered that we were philosophically well attuned. (Norman Cousins)
(77) As Slote quickly translated, Admiral Stanley stood, his thin lips quivering. (Herman Wouk)
(78) She quickly exploited her exalted position. (BC)
(79) Arafat quickly endorsed Prince Saud's "concrete proposals." (BC)
(80) One is quickly absorbed in the intensely vivid world of his novel. (On the cover of Larry McMurtry's Terms of Endearment)
(81) When they rejoined the train, the Pawnee were laughing, destroying any illusion that the fray could have been serious, but General Custer, as he insisted on calling himself, quickly corrected that. (James Michener)
(82) Such a conversation quickly reveals an ethically significant ambivalence. (Irwin Shaw)
(83) If you have a dire need for love, if you accept the fact that you have it, and if you keep challenging, disputing, and questioning it, it will ultimately, and often very quickly, start decreasing. (Ellis/Harper)
(84) When simply in the presence of my family, I quickly start cringing. (Ellis/Harper)
(85) ...when our eyes met, we quickly averted them. (Jean M Auel)
(86) As the word passed in the slave row that Missy Anne was going to read something, everyone quickly assembled outside Bell and Kunta's cabin, and she started to read. (Alex Haley)
(87) I planned a trip there when I was writing the Pack book, but I cancelled it quickly once I'd made a few enquiries. (Herman Wouk)
(88) Her loud halloing quickly brought a worried L'il Kizzy, who raced back to relay the news/ (Alex Haley)
(89) Why, if I do happen to get anxious because I remind myself of some past threat, can't I then see what I've done and calm myself down pretty quickly? (Ellis/Harper)
(90) The other steerage passengers quickly backed out of their way, amazed, if not aghast, that anyone in the steerage would ape first class. (Fred Mustard Stewart)

(91) After a 2-2 tie with Sweden and a 7-3 victory over Czechoslovakia,the 1980 team was quickly adopted as "America's team", even by people whose only knowledge of ice concerned how many cubes they preferred in a glass. (The New York Post)
(92) But after some direct questioning, he quickly admits that he terribly fears domination by his parents, failing to win the esteem of his classmates, and ultimately failing as a dentist. (Ellis/Harper)
(93) "It sends out rays to quickly locate the tumor." (American TV, 21 January 1984)
(94) The more you do the things you needlessly fear while contradicting your self - imposed anxiety, the quicker and more thoroughly your fear will vanish. (Ellis/Harper)
(95) "I'll put on this jacket, and you will see very quickly what happens." (American TV, 1 November 1983)
(96) By the end of March the brooks are speaking a new language, chattering of change and singing qiuet songs of the season.There is all the reason they should, for of all the waters of the earth the water of the brook is most alive,most quickly responsive to the shift of the sun and the urgencies of the earth. (The Reader's Digest)
(97) But Washington didn't act rapidly enough to strike a deal with Assad while he was on the ropes.Moscow quickly rearmed the Syrians. (Time)

IV ABSTRACTNESS

a) A hypothetical situation

(98) He lived carefully in such woods as had developed and fed himself by browsing on leaves and soft marsh plants, for his teeth were not strong and would have quickly worn down had they been required to eat rough food like the grass which was even then beginning to develop. (James Michener)
(99)...for a snake, like the great reptiles before him, would quickly perish if exposed to the direct rays of the sun.(James Michener)

b) Quickly in if-clauses

(100) If a Soviet leader is chosen quickly, as the Governments in Bonn and Paris thought likely, the arguments for participation in the ceremonies at the highest level are considered stronger. (The New York Times)
(101) If you lose your amulet and do not find it quickly, you will die. (Jean M Auel)
(102) The disasters that you imagine will happen if you do not quickly get a perfectly and absolutely "right" solution rarely occur. (Ellis/Harper)

V SERIALITY

a) Quickly preceded by and

(103) You know that you make me think about how it all did seem just a little too easy, a little too good, when I kept reading how John Smith, or Joe Blow, after years of lying on the sofa, suddenly saw the light, admitted that all his life he had really wanted to replace his father in his mother's bed, and then quickly lost his neurotic symptoms. (Ellis/Harper)
(104) Hissandy hair was already beginning to thin and recede at the sides, and Abe looked quickly away. (BC)
(105) Mog-ur signed and she quickly got up, but she couldn't shake the feeling as she walked to the cave. (Jean M Auel)
(106) Sifafa went over and talked with the three other boys, and two of them quickly picked up and carried away the two whimpering dogs. (Alex Haley)
(107) There were inevitable comparisons to Clark's embarrassing 1981 confirmation hearing as deputy secretary of state - when he could not name the leaders of South Africa and Zimbabwe - and jokes quickly circulated around Washington that before his confirmation hearing Clark would he wise to bone up on the names of the most famous national parks and states. (Newsweek)
(108)"What the hell are you two up to?" I cried, and stepped quickly inside, pulling the door to, for they had the lights on and they had only a piece of sacking for black-out. (Hammond Innes)
(109) Winston apologized and quickly set the hat right. (Irwin Shaw)
(110) And with that he crossed the gangway and went quickly down the wharf. (Hammond Innes)
(111) Deliberately he gave his orders briefly and then quickly walked away, to test how quickly and well the boys could remember instructions. (Alex Haley)
(112)...and the company was quickly able to declare very liberal dividends on... (The Economist)
(113) The loathsome scavenger had seized the child by his arm and was quickly retreating, dragging the small boy with him. (Jean M Auel)
(114) Was there another Majdanek in the Warsaw area, as they suspected?Andrej stopped at Litowski Place and looked around quickly at the houses. (Herman Wouk)
(115) Yes, the pope could die and quickly be made a saint.(Time)
(116) Fights sprang up and were quickly squelched.(Newsweek)
(117) She hesitated and then said quickly, "You can have her Jim. But on one condition."(Hammond Innes)
(118) The pattern bore no relationship to what an Iowa farmer would be doing with his land in September, and Grebe quickly realized that if anyone were to dry-farm, he must listen to the experience of someone like Creevy, because this farm in western Kansas was flourishing. (James Michener)

b) Quickly followed by and

(119) She quickly shrugged off her basket and reached to the bottom of it for the sling. (Jean M Auel)
(120) The other four quickly joined them, and, moving to the rhythm

of their own heartbeats, they jumped and danced their elation on the backs of the massive beasts. (Jean M Auel)
(121) I offered him a cigarette. He looked at me quickly and then took one. (Irwin Shaw)
(122) Jennie quickly learned how to work them, and with her operating the starb'd engine and the three of us in the hold loading, we began to clear the cargo from the hold. (Hammond Innes)
(123) McKeag became an expert in skinning a beaver: a swift cut from neck to anus plus four quick cuts around the feat, and he had the skin off. (James Michener)
(124)Two weeks ago, when Tannous ordered a counter offensive against attacking Druse and Palestinian fighters, the Army quickly bogged down - and squandered vast amounts of rifle and artillery fire.(Newsweek)
(125) Phone calls quickly swamped the information hot lines, and it became virtually impossible to get a call through.(Newsweek)
(126) At least one time every day, when Massa Lea came riding down the sandy road into the gamecock training area, George would make himself as inconspicuous as possible, having quickly sensed how much chillier the massa was acting toward him. (Alex Haley)

c) Quickly modifying one in a series of verbs

(127) She sealed it up once, dressed quickly, and went out in the rain and mailed it herself. (Herman Wouk)
(128) She signed the letters, quickly stamped them and placed them on the hall table. (Irwin Shaw)
(129) Chi'ken George next quickly filled a large keg with lime and water, stirred it vigorously - dipped his large brush intor the mess... (Alex Haley)
(130) Hardenburg cleared his throat as though he were going to make a speech, then walked up to Knuhlen, looked at him deliberately, and clubbed him twice, savagely and quickly, across the eye.(Irwin S haw)
(131) From the INS perspective, the lawyers have gummed up a once efficient process of capturing and quickly deporting illegal aliens.(Newsweek)

VI HOLISTIC CHARACTER

a) Preposition indicating the feature 'resultative'
(132) Most dead Soviet leaders vanish quickly into history. (Time)
(133) ...because of her pleasant personality, intelligence, and industry, she quickly rose from one of twenty women in a stenographic pool to the most responsible secretarial position in her company. (Ellis/Harper)
(134) "She rose quickly to power in her concern." (American TV, 12 November 1984)
(135)Russ ran up the planks quickly to the plank porch. (James Mic hener)
(136) The fierce heat quickly drove us to the stern. (BC)
(137) His revolutionary pamphlets, published when he was only 19, quickly brought him to the attention of the patriot leaders. (BC)
(138) The two herds were excited enough by their chance meeting, but now they detected a strange movement to the west, and this triggered precipitate action on the flank, which quickly communicated itself to the mass. (James Michener)
(139) I quickly cast through my mind to account for her being...(BC)

b) Particles indicating the feature 'resultative'

(140) Oscar Limson got his thesis subject, quickly buckledddown to do his research and a year later emerged as a newly fledged Ph.D. (Ellis/Harper)
(141) "'But I'll get back as quick as I can', he assured her." (American TV, 23 January 1984)
(142) "He said the helicopter flew back over the border very quickly." (American TV, 12 January 1984)
(143) "I've got to get back very quickly." (American TV, 2 February 1984)
(144)"...and quickly finds out that it becomes child's play/"
(145) So if I unconsciously depress myself, I can usually find out pretty quickly what I told myself and thusdmake myself undepressed. (Ellis/Harper)
(146)...can you see how you can bring these 'unconscious' thoughts to consciousness, how quickly you can ferret them out, and see exactly what you say to yourself? (Ellis/Harper)
(147)"Let's go around quickly with some final questions."(American TV,22 February 1984)
(148) Reinforcements came up quickly to take advantage of the opening. (Newsweek)
(149) The girl kneeled by her husband with one arm at his back. "Can you hear, can you talk to me?" An incoherent, puzzled sound came from the red mouth. The girl looked around quickly at several of the people. None of the crowd had stepped forward to help. (BC)
(150) He had to duck his head awayquickly as the pitch came in(BC)
(151) As jo urnalists quickly pointed out, Britain did permit correspondents on their ships and did allow them to land on the Falklandsa;ongside the troops...(The New York Post)
(152)He ruled out quickly any effort to hide in one of the farm's wagons; there would be no time without someone's eyes too near for him to slip unnoticed into a load of tobacco. (Alex Haley)
(153)Wanting suddenly to get away from a feeling that his own sense of sharing a truly close affection wasn't actually reciprocated, he walked quickly off toward his cabin, leaving George staring after him, puzzled. (Alex Haley)
(154) Let's wrap it up quickly. (The New York Post)
(155)"They were quickly going over the documents." (American TV, 19 January 1984)
(156)Quickly Pug pulled on three pairs of socks and thrust his feet into fleece-lined boots also too big. (Herman Wouk)

(157) Castro had called h is advisers a peaceful complement of doctors, teachers, construction crews, technicians - and only about 40 military trainers, none armed with more than "light infantry weapond". But on the ground the U S soldiers quickly came up against a hardened professional group of about 600 Cuban troops. (Newsweek)
(158) And I'm sure she won't change back to her old pattern very quickly. (Ellis/Harper)
(159) However, the Russians quickly moved reinforcements back from Kabul to Ghazni. (The Economist)
(160)"This race, as I have said all along, will quickly narrow down to the two of us," he said in New Hampshire tonight. (The New York Times)
(161) So if I really buckle down now and for the most part forget what happened to me in the past, an d what dirty dogs my parents seemed to be for treating me the way they did, do you think I can work my way through relatively quickly an d still deeply understand myself? (Ellis/Harper)
(162) No slouch, he quickly ran up support from a couple of disgruntled shareholders, Stanley and Manfred. (The New York Post)

VII INCHOATIVE FUNCTION

(163) He reached for the telephone. She said quickly, "Wait a minute, what are you going to say?" (Herman Wouk)
(164) 'What's your situation by the way, Byrom?' Kirkwood said. The young man hesitated. 'He's a ROCI,' Pug said quickly. 'He's got a yen for submarines.' (Herman Wouk)
(165) Roy smiled - he did have a smile - took off his hat most politely, told her to hop in, and he'd give her a lift to Quinzaine. Her hesitation was only and she hoped he didn't notice it; as she settled herself, she asked quickly how Miss Jennice and the babies were getting on. (BC)
(166) The three quickly began knocking off banks, some 20 of them, as many as four in a day. (Time)
(167) "In ski-racing things happen very quickly." (American TV, 12 February 1984)
(168) John Glenn quickly turned the adulatory reactions of New Hampshire voters into a radio ad. A little too quickly: the voters' reaction had been taped before the debate. (The New York Post)
(169) They would show themselves quickly, for they are not afraid to say... (The New York Post)
(170) Kunta quickly changed the subject, for he knew very little about the toubob, and he wanted to think about them for himself. (Alex Haley)
(171) And sometimes, when Kunta did not know the answer to a question, he would quickly do something to change the subject. (Alex Haley)
(172) Stepping out from behind an outcrop, she hurled a missile, quickly followed by a second. (Jean M Auel)
(173) The colonel said, "Well, please come quickly." (Irwin S haw)
(174) The faster it moved under water, the quicker the batteries would go flat. (Herman Wouk)
(175) There had been class-room guffaws which subsided as Professor Griggs said drily... (Larry McMurtry)
(176)He didn't have the chance to stud it more closely, though, for the three toubob quickly stepped to one side as a new toubob strode past them and up to the box, which promptly stopped beside him. (Alex Haley)
(177) And haven't you retained that habit up to now - giving up lomg-range goals or more able friends to surround yourself with toadies who quickly gratify you. (Ellis/Harper)
(178)"What amazes me most is how fast they go so quickly." (American TV, 15 February 1984 /comment about a bob-sleigh team in the Olympics)
(179) It was quickly apparent that banning reporters - and later giving them a few quick guided tours - hurt the Administration itself. (Time)
(180) Give up the notion that people and things should behave the way you expect them to and stop being frustrated at the thought that solutions to difficult problems do not quickly appear. (Ellis/Harper)
(181) The team worked quickly. Dr. Paul Druck started pumping oxygen into the lungs. Dr. Beverly Friedlander cut two tubes into either side to release air. Dr. Robert Moglia inserted an intravenous line into the right arm to restore lost blood. (The New York Times)
(182) "See you ain't knowed the valuable nigger you sleeps wid." But quickly he was serious again. "I don't really believe dat nigger."
(183) Noah closed his eyes and thought of Jacob, quick and lithe,, as a young man , with that handsome brow and that fierce nose, taking to English with a quick, natural, overblown, rhetorical instinct. (Herman Wouk)
(184) Avoiding any quick moves George did as he was told. (Alex Haley)

VIII STYLISTIC UTILIZATION OF THE INCHOATIVENESS OF QUICK(LY)

(185) He tried the doors of the book-case. The titles he could read easily through the criss-crossed wires:works on theology, astral physics, history, biology, political science. No poetry, no novels. He moved over to the desk and stood looking at the papers on it but not touching anything. The clock on the mantelpiece was scandalized and ticked so loudly that he glanced at it over his shoulder and quickly left the room.(BC)
(186) In a surprisingly short time, Dolores appeared. To his delight, her eyes focused at once upon the two garments. Slowly and deliberately, she reached down and toucjed the lace with her fingers, then hesitated for a second. Ah, he thought, she's going through the reasoning which says she might just as well pick up his shorts too. He saw that in a moment she had grasped all the implications that had been

weeks in occurring to him. Extending her fingers another inch, she caught up the shorts, and swiftly left the room. She did not look at him, but he noticed that her face was flushed and her eyes unsteady. (BC)

IX. QUICK AND RAPID IN COLLOCATION WITH SUCCESSION

(187) I saw little Billy rise and fire almost pointblank and an Indian's face became sgattered flesh and bone.A second leaped from his horse to thettop of the bale, firing four arrows in such rapid succession it didn't seem possible they were in flight. (BC)
(188) His academic duties had little effect on his prolific pen.Blenheim was followed in rapid succession by Ramillies and The Union with Scotland and by Peace and The Protestant Succession, the three forming together a detailed picture of England undeerQueen Anne. (BC)
(189) Two more shots followed in quick succession, dropping him limp and huddled. (BC)
(190) At the age of 17 he became an apprentice machinist at the shop of Walcott & Harris in Valley Falls, Rhode Island, and following two or three other jobs in quick succession, after graduation,he went into business for himself in 1831, making lathes and small tools. (BC)

ABBREVIATIONS

BC The text material generally referred to as "The Brown Corpus"

W Webster's Third International Dictionary

PRIMARY VERBS REVISITED

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In my paper "Primary Verbs" at the First LACUS Forum, I proposed a direction for semantic research which I have elaborated and exemplified in papers at subsequent meetings. In this paper I want to review and coordinate my various arguments, providing an overview which makes clear my working assumptions and methods.

My starting point was the English verb take, which the larger dictionaries provide with over forty meanings. This diversity prompted Uriel Weinreich to observe (1963, 180):

A. When we contemplate the variety of "meanings" which a word like take has in English (take offense, take charge, take medicine, take notice, take effect, etc.), we come to the conclusion that this is a case not of abnormally overdeveloped polysemy of a word, but rather of its semantic near-emptiness.

These comments suggest the possibility that take may have only one highly general meaning. Can such a claim be taken seriously? If it has any merit, why do dictionaries provide take with so many separate definitions? What theoretical assumptions underlie the dictionaries' conclusions? What theoretical assumptions would underlie a semantic theory which provided take with a single meaning?

A starting point for answering these questions can be Ullmann's (1957) three types of multiple meaning (p. 114):

B.
1. Several aspects of one sense: SHIFTS IN APPLICATION: e.g., healthy climate, healthy complexion
2. Several senses of one word: POLYSEMY: e.g., human head, head of department, bridgehead
3. Several words: HOMONYMY: e.g., sea, to see, a see

The distinction between polysemy and homonymy is a commonplace of semantic research, although some scholars use either term as a single cover category for multiple meaning. What is particularly interesting in (B) is what Ullmann calls SHIFT. He refers to the "elasticity" of words, their ability to make small adjustments in different contexts without necessitating new distinct meanings. He gives a further example in the noun wall:

C. A simple word like 'wall' will have different aspects according to its material (stone, brick, concrete, timber), its functional role (wall of a house, a fortress), and also according to the background and interests of its users (bricklayer, architect, art historian, etc.). All these shades of application are

felt as contiguous facets of a coherent whole...

When, however, two shades are no longer felt as contiguous, we have polysemy, separate senses. Similarly, when what were once separate but not related meanings no longer seem to be related, we have homonymy, two different words. (Of course, there are other sources for polysemy and homonymy, but they do not affect the point I make here.) Ullmann emphasizes that these three types are not fully distinct, but form a continuum. When a word is hard to classify, he advises applying this "golden rule" (p. 115):

D. ...it may perhaps be wise to lay down as a golden rule to give the benefit of the doubt, in borderline cases, to the closer of the two alternative connections: to shifts in application against polysemy, and to polysemy against homonymy. Naturally, each case will have to be examined on its merits, and often there may be no hard-and-fast solution at all.

These remarks suggest the following basic hypotheses for research in lexical meaning:

E. FIRST HYPOTHESIS: A word has a single meaning.
SECOND HYPOTHESIS: If a word has more than one meaning, the various meanings are related.

In other words, the researcher's initial efforts are directed toward determining a unitary meaning for the lexical item, trying to attribute apparent variations in meaning to other factors -- particularly, to the context, as Ullmann suggests. If such efforts fail, then the researcher tries to discover a means of relating the distinct meanings. Only after such efforts fail, will two meanings be considered two different words. This approach initially assumes that form and meaning are fully congruent, that claims of polysemy, homonymy, and related notions such as "idiom" and "metaphor", must be substantiated by detailed study, not merely asserted as intuitive insights. This MONOSEMIC BIAS implies also a priority of research: detailed treatment of the apparent variation of a lexical item before treatment of its possible paraphrase relationships with other lexical items. As an example, it claims that Postal in his treatment of the verb remind (1970) should have first explored the possible unity of all posited meanings for remind before attempting to link one of those meanings to other expressions like strike as similar.

Objections to the monosemic bias come immediately to mind, perhaps too immediately. An approach that initially considers form and meaning to be congruent may seem hopelessly naive, especially with massive dictionary evidence to the contrary. It is doubtful that anyone, for example, could ever devise a believable theory which could link the noun and verb senses of the form bear. But an initial presumption of monosemy does not question the existence of multiple meaning, merely its presumed ubiquity and the unquestioned ways it is established. Rather, the monosemic bias implies that current analyses produce too much multiple meaning, and it provides a means for testing each specific claim. In fact, its apparent implausibility is its best recom-

mendation. Recent theoretical work in linguistics has a nasty habit of becoming self-confirming, finding only the evidence that supports it. A monosemic approach has the virtue of being in direct contrast with some of our most pervasive assurances, and so serves as a counterbalancing caution, a check on what we too readily take for granted. Without such a check to make our current assurances explicit and open to criticism, they are even more naive.

In order to test the hypotheses in (E), I have been investigating the changes that would need to be made in semantic theory in order for the verb take to be considered monosemic. While doing full-scale investigation of both take and break, I came to suspect that other common verbs and all the prepositions -- both groups are highly polysemic in dictionaries -- have a status comparable to take. If all these words are monosemic, then our current analytic methods, which make them polysemic, likely make the mistake of confusing lexical meaning with meaning that derives from other sources. Given the apparent self-sufficiency of language, especially in its written form, such a mistake is hard to avoid. We are barely beginning to comprehend the range and complexity of the conventions which define our social interactions and our interpretations of the world, and we have almost certainly attributed to words some of the meanings created by those conventions. More than we might realize, the written word had presented us with a ready-made idealization, and like other idealizations its basic mistake is that it includes too much in its range, attributing too much of our communicative ability to syntax and semantics.

Our current methods and idealization are part of our pretheoretical heritage, the tacit matrix of our linguistic research, exemplified and given the status of almost unquestioned fact by dictionaries. The definitions provided by dictionaries are sometimes treated as DATA; but, as their conflicting testimony should indicate, they are rather THEORETICAL CONCLUSIONS. Further, definitions are in large part pedagogically motivated, and thus are necessarily redundant and overspecific; they are also expressed through a syntactic apparatus that every linguist recognizes as inadequate. However, there are no illusions by lexicographers that they are being as exact as a scientific theory demands; they are merely being as helpful and accurate as possible, given their imposed limitations. Any illusions are those of linguists who feel that they can adopt dictionary definitions with only minor revisions, without a radical investigation into the different goals of dictionaries and semantic theory. Such an investigation requires more than readjustments and small-scale improvements on definitions. Instead, it must include an evaluation of how extensively the methods of dictionaries have conditioned our expectations, leading us automatically to look for separate meanings of a word rather than a unity.

It is useful to note four stages in the evolution of English dictionaries. The first stage is the "foreign language" dictionary, which takes the words (and set expressions) of another

language and defines them with words and expressions in English. The second stage is the "hard words" dictionary, which takes unusual or technical words borrowed into English from other languages and defines them with more familiar English expressions. The third stage is the "all words" dictionary, which attempts to define every word in the language. The fourth stage is the "linguistic" dictionary, which attempts to capture the semantic systems of the language. Each stage reveals some of the immense problems involved in what we call "definition."

We call the process of the first stage TRANSLATION, and we are reasonably knowledgeable about some of its difficulties, especially apparent when someone attempts to translate a literary work. The translator must struggle not only with a lack of direct one-to-one word-mapping from one language to another, but also extralinguistic variations concerning what is said obligatorily or optionally, what is assumed or felt or ignored and under what conditions, what meaning is conveyed without language and in what manner, what meanings are easily or commonly understood versus those that require particular experiences or exceptional training or insight, and numerous other complications. These difficulties may appear less intense on the level of single words but it is more likely that they are simply more obscured.

It is often overlooked that the processes of defining in the second and third stages are also translations, from one part of a language to another, with the same possible distortions, especially if the translational strategy is to define the relatively familiar with the relatively unfamiliar. We have no assurance based on established research that words in different parts of the language have comparable status; if we take seriously the notion of paradigm, we have good reason to suspect they do not. For example, the common practice of finding polysemy in the modals -- can defined by both be able and be possible, as one analysis -- rests on the dubious assumption that the able-possible contrast be made throughout the language. This arbitrary imposition is comparable to making parent polysemic because of the mother-father contrast, or animal polysemic because of tiger-elephant-horse-dog-etc., or take polysemic because of assume-choose-accept-endure-steal-seize-etc. Some of these analyses may seem far-fetched, others perfectly reasonable, but in fact they all deal with the same type of phenomenon, a general word being defined by words which are more specific.

Words in different parts of the language are contained in different paradigms. A proper appreciation of systematic contrasts should make any definition suspect if it does not involve a full comparision of the related paradigms. This may be too severe a requirement for the first three stages of dictionary making, but it is appropriate and necessary in the fourth stage if theoretical formulations claim any acceptable degree of adequacy. The requirements of definition are two-fold, both syntactic and paradigmatic. Our inherited strategies tilt toward the syntactic whenever we define by considering how to paraphrase within a single sentence. This not only ignores paradigm rela-

tionships between words, but also a word's paradigmatic unity. A definition can lack not only ACCURACY, but also COMPREHENSIVENESS. Even exact paraphrases may be exact in only a few contexts; the supposed equivalence of meaning may involve more than just the meaning of the words. If a word lacks a comprehensive paraphrase, this does not necessarily imply that it lacks unity in meaning. The more general a word is in meaning, the more likely it is that no paraphrase will match it over the full range of contexts. As a word's permissible contexts multiply, a consequence of its generality, so may the number of needed paraphrases. Even if each paraphrase distorts only slightly, the group of paraphrases, distorting in different ways, may strikingly differ from each other and thus give the impression of a highly polysemic or homonymic word. Yet the general word may be contributing the same content in every context. The apparent variability of meaning may simply reflect the lack of another word or expression in the language with the same comprehensiveness.

The imposition of distinctions from one part of the language to another operates also on the grand scale. In my studies on break and take, I encounter these "logical" requirements again and again. Since the notions of "Agent" and "Instrument" are supposedly clearly differentiated, and since He broke the bottle can describe both deliberate and non-deliberate acts, the claims are made that either he is polysemic in "role," or break is polysemic in "intentionality," or both. Usually overlooked is that this sentence also serves, like parent, to describe situations where the correct alternative is unknown or irrelevant. In fact, unlike parent, this sentence describes occasions when distinguishing is difficult, a characteristic of human purposes. While distinctions of agency and purpose may be relevant with some words, they have no overt manifestation with break; to clearly communicate one of the alternatives, a speaker must either add additional distinguishing words or put the sentence in context which makes the choice explicit or leads the hearer to infer it. The same limitations of range apply to other axiomatic distinctions such as Concrete-Abstract and Literal-Metaphoric.

These axiomatic distinctions can override actual distinctions. An analysis which posits a concrete verb in He broke the window and a different abstract verb in He broke the news to her fails to appreciate that break occurs quite readily with both concrete and abstract objects; in fact, with break this distinction is as ill-defined as that of intentionality. But there is a relevant distinction: window is an AFFECTED OBJECT, news an EFFECTED OBJECT. Both kinds of objects occur quite often with break. Similarly, an analysis which makes break the ice an idiom when it describes awkard situations implicitly makes both break and ice homonyms of other uses and misses a usual metaphoric sense of ice.

There is, however, a Super Axiom that is far more sweeping and thus does much more damage. In fact, it is less an axiom than a mandatory perspective -- not a discovered fact about language, but a principle thought to be self-evident, with no possi-

ble challengers. I call this axiom THE COMPOSITIONAL ASSUMPTION, and it was the motivation for my review at LACUS III (1977) of Adam Makkai's Idiom Structure of English (1972). Put simply, the axiom states that the meaning of a linguistic expression is the sum of its parts. It has an associated lemma, which defines non-idiomatic language to be that part where substitution is free and open. In other words, it is generativity in its purest from. Idioms are an excellent means for studying this axiom, because they bring it to explicit formulation; they are the expressions whose meaning differs from the sum and whose syntax displays degrees of frozenness.

In my review of Makkai, I first questioned whether this axiom needed to be so rigidly exclusionary, or rather could be relaxed to a matter of degree. It was a measure of Makkai's ingenuity and resourcefulness that even while championing the axiom with great force and vigor, he let his doubts slip out in appendices that showed remarkable relationships among expressions which were reputedly so singular. Makkai found himself forced by the axiom to judge idiomatic a number of expressions in which the meanings of the words contributed part of the meaning of the whole, such as speak up. This had to be lumped together with more obscure expressions such as red herring, even though speak up seems more closely akin to compositional expressions than to red herring.

Further, some idioms displayed productivity, the point I made about kick the bucket 'die', with its related kick off, kick in, kick over, and kick it. While this kick is probably not related to the other one, it does appear to be the same verb in all these expressions, a point that seems to me would be readily granted by anyone if it didn't conflict with the Compositional Assumption. More significantly, the phrasal verb pattern is highly productive in general, and even in specific areas such as sit-in, be-in, etc. Thus, in SOME so-called idioms, there is SOME semantic motivation, and SOME productivity. This is acknowledged by Makkai, but he denies that speak of speak up is a lexeme in Stratificational Grammar, thus making it a homonym of other uses of this form, when it seems as least to qualify as polysemous. Yet, according to the Super Axiom, this was the right conclusion for Makkai to make.

The role of frozen syntactical possibilities is puzzling. Makkai grants that frozennesss alone is not a criterion for an idiom, since phrases whose meanings are the sum of their parts can also be impervious to substitutions. Yet, in justifying kick the bucket as an idiom, Makkai thinks it significant that strike the pail cannot also mean 'die' (1977, 467). We have to ask WHY a certain expression is fixed. The ideal of free syntax is not absolute; if it were, then anything would be possible in a language. There are limits everywhere in a language, some of which allow many possibilities, some perhaps as few as one. Alternatively, it is possible that the intersection of two or more limits can reduce the options available in some syntactic position to a single word. Such "frozenness" is radically different in kind from an expression whose pattern has no general determination. I

suspect kick the bucket is fixed solely because it is a archaism, but another case that Makkai mentions, the use of at in drive at sixty miles an hour, is probably a reflection of order, (1972, 25). Makkai considers English "a-logical" because it does not use with, to parallel uses in European languages, but since he hasn't investigated the systematic uses of in, on, and at in English measure phrases, he has no way of knowing whether at is alogical or principled. An analysis which ignores paradigms cannot assess whether lack of syntactic freedom is significant or not, especially when dealing with a highly productive pattern as the phrasal verbs.

We must now ask directly: is it true that the basic semantic order of a language is compositional? Since the axiom is a theoretical mandate, it actually imposes compositionality on expressions which don't exhibit it. Multiple meaning is the means. If a phrase doesn't sum up correctly, one can accuse it of being an idiom, or alternatively claim different meanings for some of its words. To see how this works, consider the sentences The burglar took everything I had, The IRS took everything I had, and Painting the house took everything I had. What is being described seems different in all three contexts. The inclination of dictionaries is to attribute the difference to the verb, which oddly stays the same. What varies are the subject expressions, and our knowledge about what they refer to. Burglars and the IRS operate differently (though we may be tempted to equate them), and so while we define the first take as 'steal', we feel the second one has a different meaning. Under the influence of the subject expressions, we even interpret the objective expression differently. Does the third example mean that having professionals do the job costs me a lot of money, or that doing the job myself required all my ability? The two alternatives seem to demand two different meanings of take, and these are different from the take of the first two examples. We note also that everything I had can be hyperbolic, and so have different meanings when taken as accurate or as an exaggeration. Again, take may seem to require several meanings for these two possibilities.

There is another way, however, to analyze the variations, one that does not ironically assign difference to something which doesn't differ. The alternative analysis attributes the difference to the knowledge we add to what the sentence says. A sentence is not merely the sum of its parts, because human interpreters always infer additional information from what they are given. We do this so automatically that lexical knowledge and inferential knowledge seem all of one piece. Given the example of the dictionaries and the "obviousness" of the Compositional Assumption, it is very easy to assume that all our knowledge is lexical. This is the basic mistake of current semantic research, a mistake so fundamental and so far-ranging and self-fulfilling in its effects that multiple meaning appears to be inherent in every common word.

The Compositional Assumption claims, obviously, that the contribution of lexical items to the meaning of a sentence is

COMPLETE. Less obviously, it also claims that all meaning is DIRECT. These two requirements are interdependent: if one fails, the other does too. In my papers over the years, I have noted instances where attributions of polysemy could be avoided if metonymic status were given to a word or phrase, either semantically or syntactically. The verb hit serves as an example of both. I claimed that a large class of parallel expressions usually considered idioms, such as hit the road, hit the sack, hit the streets, could be understood as referring indirectly to an attendant action or situation: hit the road, for example, refers to an initial "joining" which implies a following journey or habitual journeying. (This point, of course, relies on a previous fully-paradigmatic analysis of hit which shows that 'violent' or 'hard' is not part of its sense.)

This is semantic metonymy; syntactic metonymy is exemplified by the relationship of hit out at the ball, hit the ball, and hit the ball over the fence. In the first and third sentences, the syntactic context is appropriate for a movement word; in the second, for a contact verb. I suggested that instead of making hit polysemic, to fit exactly each context, we assume that hit is merely a contact verb, which can be used in contexts that represent movements before and after contact. The first and third sentences then require an inference, drawn from the context, to supply the sense of movement. By implementing this suggestion, we would eliminate the polysemy of a number of other verbs, including kick and slap.

One major hurdle remains in my assault on polysemy: figurative language. In past papers, I have attempted to distinguish two types of figurativity, one pragmatic, the other semantic. The first designates figurative senses which are contributed by inference, not inherent in lexical meaning. Most original metaphors in literature are pragmatic, deriving their altered sense from the reader's ability to go beyond the words. The uses of I as a metonym to mean 'my car' in I'm parked at the corner and of door to mean 'person communicating by use of the door' in Answer the door do not involve distinct meanings of I and door. Proverbs are an obvious example of pragmatic figurativity: pragmatic generalization in When the cat's away, the mice will play and pragmatic specialization in Out of sight, out of mind. Making proverbs idioms, as Makkai suggests, is no more than a refusal to understand how they work.

There is semantic figurativity as well, such as the noun ice meaning both 'frozen water' and 'diamonds'. The term POLYSEMY seems to me appropriate for this kind of situation, but with some different assumptions than at present. Most literal-only analyses of meaning assume that lexical meaning is fixed; I have argued instead that word meanings are basically OPEN, easily available for extension according to conventional patterns of inference. This basic condition makes pragmatic figurativity possible, and leads further both to historical changes in meaning and to the distinct senses of semantic figurativity. Seen this way, the relationship of "literal" and "metaphoric" is less haphazard than

we have usually assumed: by virtue of the basic condition of openness, even these separate meanings can be seen as part of a greater unity. In other words, the two senses of ice are more closely related than the words frozen water and diamonds. Thus, while agreeing to multiple meaning here, I also claim unitary meaning: polysemy is an inherent characteristic of monosemy.

However, there is a limit to figurative extension. Some words become so general in meaning, so relatively empty of content, that they are incapable of figurativity, or else capable on such a diffuse scale that it is very hard for us to notice. Such words I have called PRIMARY WORDS, and both take and break are examples. Primary words can occur in phrases with figurative meanings, but they remain "literal". These words are the most baffling for us to study. I have claimed that we cannot even understand them consciously; we can judge their status only indirectly, by seeing their diverse and manifold effects in a sufficiently large body of data. I have worked with 3500 break sentences and almost 7000 take sentences, and these sizes seem close to what is appropriate. These examples are from actual use, not intuited, for intuition always underestimates. The data overlooked are those which make the links between apparent discrete senses. Semantic research of the future must recognize the need for much more data than we have ever imagined necessary. With such data, our intutions become more reliable; now, intuitions merely mislead us, confirming us in our mistakes.

As we inspect more and more data, we learn to distinguish what is inherent in word meaning and what is supplied from outside. As our awareness of contextual influences improves, we realize how much we have viewed language as an isolated thing, even when our theoretical statements may have claimed otherwise. Take is a good teacher. A primary verb is so schematic in meaning that it can be easily diversified by context. Analogously, an artist can use an L-shape to represent, in appropriate contexts, a nose, an intersection of a street, a missing piece of pie, the letter L, and many other things. The L-shape is always merely an L-shape, but with the help of context we can make it seem to be something other than merely that. Even when we learn to clearly distinguish inherent and external meaning, however, we cannot adequately define a word like take with other words. There is no other word or expression that equals it in resourcefulness. I have claimed that such meanings are unconscious, beyond our ken. We can approach an understanding of such words, but only indirectly, and with a proper appreciation of the limits of consciousness.

More generally, it may be asking too much to require an equivalent word or expression for ANY words, since synonymy is almost always VIRTUAL and not EXACT. When we define, we compare expressions that are CLOSELY RELATED, largely the same yet partly different. Seen this way, the definitions of dictionaries can be re-interpreted. When they define take with choose, steal, assume, etc., they are defining with specializations, by example. What we have seen as multiple meaning in take is really the antonymous relationships of its hyponyms. Of course, as my remarks

imply, a reversal of our present direction is not as simple as that, but even this recognition would begin to counter a disdain for "surface structure" that is far older and more influential than Transformational Grammar.

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III

HISTORICAL STUDIES

LINGUISTIC CORRELATES OF EMOTION IN RUZANTE

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The application of linguistic tools to literary criticism is an endeavor which has attracted the interest of scholars because of its potential for yielding significant results in both fields. Earlier work concentrated on metrics, syntactic structures, and the relationship between linguistic norms and individual style (Sebeok 1960a; Freeman 1970, 1981). Some interest was shown in phonetics (Sebeok 1960b) and in the psychology of both author and public, subjects which have recently been studied in their relationship to one another (Oliver 1983). It is along this line that the present study will proceed, examining the connection between the linguistic form of passages from four dramatic pieces and the emotions which they portray.

The works in question are by Angelo Beolco (Il Ruzante), eldest but natural son of a prior of the Faculty of Medicine in Padua,[1] who wrote and performed plays during Carnival season which sharply criticized Venetian society. As he was born about 1496, Beolco's career coincided with the tumult surrounding the War of Cambrai, the questioning of social norms and authority which characterized the early sixteenth century, and the end to this period of openness signalled by the Counter Reformation and other conservative movements. The significant moments of Beolco's life paralleled those of the wider society in both meaning and chronology in a three-part development. As a youth he enjoyed his father's favor, but, not having been legitimized, he received only a small, contested sum for his inheritance (Sambin 1964:236-7), and was constrained to remain with his wealthy but pompous patron (Carroll 1981:Ch.3). Similarly, the Venetian Republic was recovering from its defeat by the League of Cambrai when it was devastated by a round of battles with French and Imperial forces accompanied by plague and famine, forcing it to accept the primacy of more powerful states (Finlay 1980:196-226). The plays follow this cycle in the intensity of their social criticism, which is at first playful, then gives way to murderous rage and finally resolves itself in an acceptance of the dominant culture (Padoan 1968;Carroll in press). As a result, Beolco expresses the attitudes of the times with a clarity which resembles that which Spitzer (1970:25) noted for Charles-Louis Philippe and twentieth-century France.

Beolco's purpose in both writing and acting as a peasant (Ruzante) acutely aware of human problems was to communicate with intensity the emotions of these three phases and create a corresponding state in his audiences. Thus his plays provide significant material for the study of the linguistic encoding of emotions

(Osgood 1960). He achieved his purpose by constructing each dramatic work as a mosaic of elements whose values varied along the scales of muscle tension, pitch, duration, stress placement, and length of rhythmic groups and of segments enclosed by syntactic boundaries.[2] The following section will examine the correlation between differing values and differing dominant emotions (Hymes 1960:113).

The first play under consideration, La Pastoral, is Beolco's earliest extant play. It centers on a somewhat awkward satire of official culture and society realized through the juxtaposition of two sets of characters, several Arcadian shepherds who speak Tuscan and two genuine peasants who speak Pavan, the dialect of the Paduan countryside.[3] An encounter typical of the play occurs in the passage which has been chosen for analysis (Beolco 1967:57-8). Arpino, a high-strung Arcadian in great distress over the apparent suicide of a friend, in rushing up to Ruzante for help, scares off a much-stalked thrush intended for dinner, arousing the peasant's ire. The contrast between Arpino's tension and Ruzante's assurance (stemming from righteous indignation)is manifested in various ways. In an equal number of lines of rhymed verse (nine), Arpino's speech contains 235 segments and that of Ruzante 216, resulting in a tenser articulation in the former. The proportion of voiceless and voiced consonants in the Arcadian's speech is 40% and 60%, as opposed to 31% and 69% in that of the peasant. Arpino's speech contains 21 consonant clusters, four of which consist of nasal+ consonant (Bell-Berti and Hirose 1975:72; Sawashima 1977:40), while Ruzante's contains nine clusters with two of the nasal type. The points of articulation of consonants and following vowels or glides are different (Sawashima 1977:40) in 61% of the occurrences in Arpino's speech but in 57% of those in Ruzante's. Vowels also show some contrast of tension. In Arpino's speech, the proportion of high vowels, which require greater muscular activity to articulate (Stevens and Perkell 1977:327; Rossi and Antessere 1981:234), is 26%, 60% of these being /i/ (Stone et al. 1983:213). The respective figures for Ruzante are 19% and 49%. Concomitantly, low vowels (Gay 1977:97) comprise 26% of Arpino's vowels and 32% of those of Ruzante. Some indices show, however, that the characters are not completely polarized (perhaps in accord with the agreement that they will reach later in the scene): the proportion of consonants to vowels is 48% for both, the percentage of consonants in intervocalic position (Sawashima 1977:40) is 25% for both and each shows similar patterns of changes in vowel heights (approximately one third of the vowels are higher than the preceding vowel, one third lower and one third at the same level).

Indices of segmental pitch are also characterized by a mixture of contrasting and similar measurements. Vowels in a voiced environment, generally of a lower pitch (House and Fairbanks 1953: 113), comprise 42% of those of Arpino's speech but 56% of those of Ruzante's. The statistics given above on voiceless consonants (House and Fairbanks 1953:113) and high vowels (Lea 1977:99-100), both usually higher in pitch, are also relevant here. Of the consonant clusters of Arpino's speech twelve are on a high or rising

pitch and nine on a low or falling pitch, while the respective figures for Ruzante are two and seven. The highest-pitched consonants (/s/ /ʃ/ /ʧ/), however, comprise 8% of the consonants of both characters. The occurrence of stressed vowels (Lehiste 1970:125) contradicts the trends noted to this point, as their proportion to total vowels is 41% in Arpino's speech and 56% in that of Ruzante (with words ending in a stressed vowel numbering six and nineteen respectively). This is one of several valuable clues revealing the underlying anger of Ruzante to be developed in later plays.

A further clue is the conflicting pitch patterns of Ruzante's sentences. Four of them are either questions or exclamations, normally on a rising pitch. However, three of these begin with the kind of exclamatory word "which bursts out and then leaves the rest of the utterance deflated" (Bolinger 1978:488). Both exclamations contain embedded in them a negative verb, associated with lowered pitch (Bolinger 1978:479), while the main verb of the second question itself is negative. The long rhythmic groups of Arpino's speech (five consist of seven, eight or nine syllables) and the placing of the stress near the end of them cause a buildup of tension, while the shorter groups and early stress placement of Ruzante's exclamations effectively make a leader-timed language out of one which under ordinary circumstances may have been trailer-timed (Wenk and Wioland 1982:204-9). However, the length of Ruzante's two declarative sentences is considerably longer than that of Arpino's seven, 37 segments as opposed to 28, and each of them contains only one syntactic boundary. This permits a gradual fall of the sentence pitch (Sternberg et al. 1980:518; Sorensen and Cooper 1980:408-10) with only one re-setting (Lea 1977:109-110; Sorensen and Cooper 1980:424-5). The shortness of Arpino's sentences and the paucity of negatives, questions, and exclamations combined with the large number of internal syntactic boundaries (as many as five) create a choppy but consistent fall-rise pattern.

An examination of indicators of intensity and duration shows the values for Ruzante's speech to be consistently higher. Fricatives, which cause lengthening and intensification in preceding vowels (O'Shaughnessy 1981:390; House and Fairbanks 1953:108),comprise 23% of the consonants of his speech (about two thirds are voiced) but only 13% of Arpino's (about one fourth are voiced). Similar percentages hold for nasals (22% and 14%) which have a like effect (Blood 1981:312 citing House and Fairbanks 1953); and for bilabials (27% and 22% of consonants), the longest consonants (Perkell 1980:349). Intensity and length also increase with the proportion of low vowels (O'Shaughnessy 1981:389) and vowels in a voiced environment (see above). Vowels intensify under stress;they lengthen (Lea 1977:91) as do consonants, particularly in pre-pausal position (Manrique and Signorini 1983:488). Beolco deftly combined several of these factors by ending three of Ruzante's lines in -ón, in each case at a major syntactic boundary. In this way he created attention-getting duration and intensity while profiting from the regularizing effect of meter on sentence rhythm to establish atypical rhythm.

The rest of the syntax is unremarkable except for the fact

that the supposedly moronic peasant twice (both times in the midst of a profanity in a manner surprisingly similar to a well-known American in-fix) uses a center embedded clause, one of the most sophisticated syntactic constructions (Austin 1981:145-6).

Both the intimate and the scornful aspects of the familiar pronoun (Brown and Gilman 1960) are represented, as Arpino addresses the rustic as "tu" and "sweet brother dear" while Ruzante prefers "tu" and "baboon" in speaking with the Arcadian.

Beolco's criticism of the refined and wealthy sharpened in the late 1520s because of his small inheritance and his sympathy for the desperation of the peasants in the face of war, famine and pestilence. He performed the Seconda Oratione in 1528, in celebration of the appointment of Francesco Cornaro, relative of his patron Alvise Cornaro, to the cardinalate. His praise, however, is undermined by the bitter irony of his description of the popular acclaim which supposedly catalyzed the appointment [while in fact Cornaro had bought it; see Zorzi (1967:1569-70)] and his excusing of the Paduan peasants for their lack of attendance because they are suffering from famine. Though his satire begins teasingly (Beolco 1967:1209 A' son...ha fato), Beolco's awareness that it may be putting him in jeopardy is manifested in the tenseness of his speech relative to that of Ruzante of La Pastoral. The number of voiceless consonants rises to 38%, and the instance of nasal+ consonant clusters doubles. There are twelve two-consonant clusters (of which seven are on a high or rising pitch) and two instances of the strident str. The instance of change in point of articulation increases significantly to 64%. Certain other factors, however, show a lessening of tension; it may not be fortuitous that at the time Beolco was emotionally torn between his success at cultivating the rich for his own survival and his indignation at their exploitation of the poor. The percentage of high vowels decreases to 15% while the proportion of consonants occurring intervocalically rises to 33%.

Indicators of pitch also show opposing tendencies. The strong presence of voiceless consonants and the low rate (40%) of vowels in a voiced environment contribute to raise pitch, while the lower rate of stressed vowels (49%) and of high vowels (15%) lower it. The large numbers of mid-level vowels (63%) and the extreme length of the declarative sentence with its paucity of internal boundaries act to stabilize intonation. However, the placing of key stressed words at the end of segments functions to raise audience tension, since, given the ironic intent, one does not know what to expect. The average intensity of segments is reduced through the small number of stressed vowels, low vowels (22%) and vowels in a voiced environment; these factors and the low percentage of labials (21%) shorten the duration of various segments. The division of verbs almost evenly (five and three) between transitive and intransitive may reflect the divided mentality of the speech (Halliday 1981:337-55). Although limitations of space preclude a full discussion of the neologisms which result from phonetic and semantic distortion, it is important to note Beolco's replacement of Reverendissimo (Most Reverend) with Rebelissimo (Most Rebellious)

and the growl produced by Sgardenale (=Cardinale).

In the following sentence, describing Cornaro's supposed reluctance to accept the honor that fate has thrust upon him, Beolco uses a figure ("to freeze in August") which belies not only Cornaro's effort in achieving the impossibly difficult nomination but his own inversion of his formerly-cherished faith in the natural. Indicators of tension and pitch polarize further. The number of voiceless consonants increases to 43% but the percentage of intervocalic consonants rises to 40% and that of vowels in a voiced environment to 48%. There are only three consonant clusters, but all of them are voiceless. Changes in point of articulation decrease to 54%. Pitch and intensity are augmented by the doubling of the instance of /s/ (18%) and the slight increase in stressed vowels (52%). The decrease of low vowels to 19% raises pitch but lowers intensity and duration. Duration is also affected by the decline in the percentage of labials to 16% and the low number of voiced consonants. Again, there is a nearly even division of verbs between transitive (three) and intransitive (four). An impression of choppiness, and perhaps anger at something unpleasant which cannot be changed, is conveyed by the shortness of segments within the sentence, but the placing of key words early in them shows that there are no longer any surprises. Cornaro has succeeded in imposing his will and becoming cardinal. The intelligence which lies behind the bumpkin facade and gives import to the criticism reveals itself in the long complex periods imitative of classical rhetoric (Barata 1972-73).

When the soliloquist explains to Cornaro that all the peasants would have come to celebrate his victory if they hadn't been starving [E sí...mossolin...], the acoustic dichotomies disappear. Various indicators of muscle tension and pitch attain their highest levels. The percentage of voiceless consonants rises to 50%, there are five clusters of voiceless consonants, and the proportion of intervocalic consonants falls by 13% to 27%. High vowels constitute 36% of the vowels, the greatest percentage in the passages considered. Changes in point of articulation increase to 60%. The occurrence of /s/ reaches 22%. The number of vowels in a voiced environment drops to 37%. The greater intensity produced by the high level of /s/ and fricatives (32%) is moderated by the low level of vowels in voiced environments and stressed vowels. The latter two factors also act to decrease average duration.

Infraboundary segments become shorter as the orator approaches the crucial fact of starvation, then lengthen as he recites metaphors for the peasants' condition. Semantically important words occur at the end of segments, correlating with the intent to reveal to the Cardinal facts of which he is ignorant. Stress also tends to occur near the end of rhythmic units, creating the same effect. The units are at first short, but once the listener's attention is caught, they lengthen to hold it. The four intransitive verbs all have the peasants as subjects and insist upon their existence; the two transitive verbs (considering reflexive to be transitive) of which they are subject demonstrate that all they have are their fragile bodies. Despite the tension, the explosive

quality of other passages is absent. There is only one mild exclamation and one negated verb. Perhaps this is linked with the author's conviction of the justness of his words.

As the soliloquist goes on to say that he himself has managed to eat well (...e se...invernè...), the dichotomies return, echoing the tension between his own good fortune and his guilt. The ratio of vowels to consonants drops to 46%, that of vowels in voiced environments to 32% and that of low vowels to 5%, the lowest level in each case. The proportion of stressed vowels is 58% and that of /s/ 23%, the highest level for both. Changes in point of articulation occur in 69% of the instances. In opposition, the proportion of voiceless consonants decreases to 45%, that of intervocalic consonants to 6%, and that of high vowels to 21% (one fourth of which are /i/). The four consonant clusters represent a high percentage, but two are low-pitched. Intensity is alternately increased by the high level of stressed vowels, /s/, and nasals (27%) and decreased by the low level of vowels in voiced environments, low vowels and fricatives (27%). Duration is lessened by various of the factors mentioned but prolonged somewhat by the moderate presence of labials (23%).

Being very short, this segment has only one internal boundary dividing it into a medium-length section and a very long one. The latter builds up tension as the orator approaches the consequence to Cornaro if he were not the only peasant to have eaten well, namely that no one from the country would have come to acknowledge his honor. Progressive shortening of rhythmic groups reinforces the tension. The only verb is to be, which occurs twice in an assuring reiteration of the fact of his existence (Gibson 1970:150-1). It is used in a revealing passive construction. The soliloquist does not say directly that he has eaten well but that he [and his silent sidekick who presumably accompanied the speech with a mime (Zorzi 1967:1570)] "...a' seóm pur stè ben invernè..." This translates roughly to "we were nonetheless well foddered this winter", implying a passive dependence on their patron which brought dehumanization with it.

A significant shift in personal pronoun use should be noted. During the first, laudatory section of the speech, the Cardinal is addressed with the respectful voi. However, as the orator embarks upon a moving description of the misery of the peasants, his use of tu, implied in the verb forms, appeals to Cornaro to identify with their suffering. He immediately returns to the voi, however, when he exhorts Cornaro to use his power as Cardinal to improve the situation.

Beolco's angry phase culminated in the Bilora, which includes the only known on-stage murder in high Renaissance comedy (Bonino 1977:LXV). Representatives of high culture have disappeared from cast and audience, leaving the peasants the sole focus. The play moves from Bilora's expression of anger to his friend who has failed to make Dina, Bilora's wife, return to him; to his fantasy of revenging himself upon Andronico, the wealthy old Venetian who has taken Dina away, by murdering him; climaxes in the actual stabbing, and concludes with Bilora's realization of what he has

done; a passage from each section will be examined. Scene 10 opens with a tirade directed by Bilora at his friend Pitaro for the latter's failure to secure the return of his wife (Beolco 1967:573-5 Mo...de la loa...). The true objects of Bilora's anger, though, are his own temper and chronic poverty which have driven his wife away and which he feels powerless to control. Coordinates of his distress are an increase in segmental tension, pitch and intensity. There is a high percentage of apical consonants (70%) with a concomitant lowering of that of labials (19%), an instance which, I believe, bears a synaesthetic relationship to the imminent stabbing in its short, tense thrusts. The occurrence of high vowels rises to 22% (of which 83% are /i/), causing the percentage of low vowels to drop to 29%. In 54 consonants there are four nasal+stop clusters and eight occurrences of /s/. Changes in point of articulation (62%) reach a strong intermediate level. Since all three of the sentences are exclamations, the overall pitch contour remains high, although the heavy presence of negatives causes fluctuations. Those indices of segmental pitch which drop are ones in which lower pitch correlates with greater intensity. Thus the proportion of consonants to vowels is 45%, that of voiceless to voiced consonants 27% and the instance of single intervocalic consonants drops to 11%. The percentages of stressed vowels (53%), nasals (26%) and /s/ contribute moderately to intensity. These factors indicate as well longer duration, whose only counterindication is the decrease of labials to 19%.

The dominance of transitive verbs (four, with one intransitive) which, however, lack objects, should also be noted. The peasant is ready to do something, but he doesn't yet know what.

When, through fantasizing, Bilora decides upon his revenge (Beolco 1967:577 E mena...campo.), the proportion of transitive verbs remains high (ten, to one intransitive), but most of them gain objects. Many of the indicators of high tension and pitch remain the same, but some significant ones fall. The percentage of high vowels is 17% (of which 76% are /i/), but since the number of low vowels increases, 39% of vowels are followed by one of a higher level, creating a see-saw effect. There are slightly fewer nasal +consonant clusters (seven in 113 consonants) and changes in point of articulation (66%). The number of stressed vowels and /s/ and /ts/ decreases significantly, to 38% and 11% respectively. One manifestation of laxness, the instance of intervocalic consonants, nearly doubles to 23%. The number of fricatives drops to 13%, lowering intensity of vowels. A greater percentage of labials (24%) adds duration. Since only one of the four sentences is an exclamation and none is negative, the normal decline in pitch of the declarative utterance prevails. The clauses are linked through parataxis and most follow the even pattern: e (and) sì (particle stressing verb) verb complement mi (postposed strong subject pronoun) in an insistent repetition typical of reaction to stress (Osgood 1960: 296-7).

After Bilora constructs a satisfying fantasy in which he has killed and stripped the old man and become a successful soldier, he utters a series of noisy oaths, which bring Andronico to the

street. The words which Bilora speaks as he stabs him repeatedly (Beolco 1967:579 Fuogo...stare.) have a resonant, compact quality. The difference in points of articulation decreases to 55%. Only 30% of the vowels are followed by another of a higher level while the percentage followed by one of the same level rises to 36%. The proportion of intervocalic consonants increases by 9% to 32%. One half of the vowels are stressed, although there is a decline of the number in voiced environments to 53%, due in part to the shortness of the words. There is only one consonant cluster and one /s/. The proportion of fricatives rises slightly to 16% because of the heavy concentration of /f/s, which also increases the proportion of labials. His realization of his fantasy is expressed through the exclusiveness of transitive verbs with objects. The utterance rhythms show two distinct patterns: the first two are choppy, explosive exclamations with numerous internal boundaries, while the second two are a dense, unified statement of his sense of justice, "Dame mo la mia femena. Te la dîvi lagar stare." ("Give me back my woman. You should have left her be.")

Bilora's fury immediately passes, though, and he realizes that he has not been dwelling in a harmless fantasy. The reification of his revenge may have ill consequences for him. His speech regains its tension. The percentage of voiceless consonants rises by 6% to 33%, while the number of intervocalic consonants drops by 14% to 18%. In 102 segments, there are seven consonant clusters, two of them containing a nasal. Stressed vowels again reach 58%. While the proportion of high vowels increases to 20% (all of which are /i/), that of low vowels decreases to 22%. Changes in point of articulation reach 63%. Several indicators show a decline in intensity. The percentage of vowels in a voiced environment is lowered by 13% to 40%, the percentage of fricatives by 10% to 6%, while the occurrence of /s/ remains at a low level. The average duration of segments is lowered by the loss of low vowels and voiced consonants mentioned above, and by a decrease in the number of labials to 27%. The tension inherent in Bilora's reaction is conveyed by the initiation of most utterances with an exclamatory word and the placement of stress early in the rhythmic group (often on the first syllable), but its mixture with sober realism in the face of facts is apparent in the even spacing of internal boundaries of four of the sentences. His intelligence, usually submerged by the caricature of the simpleton which he adopts as protective covering, emerges in the complex sentence and subjunctive with which he declares Andronico's death. Important clues to the protagonist's psychology are contained in his use of persons of the verb: in the first two speeches studied, only the first person singular occurs; in the second two, he addresses both himself and Andronico with tu (Gibson 1970:148-50).

After the Bilora, Beolco's plays become calmer. Although there is still criticism of the dominant group, there is an acceptance of the fact that their power will not change. This attitude finds literary expression in Beolco's imitation of canonical authors. Typical of the late comedies is the Vaccaria, based on the Asinaria of Plautus. In it, the servants speak an attenuated form

of Pavan while the masters speak Tuscan. A comparison of a speech by the servant Truffo (Beolco 1967:1131 Du...altr'ano.) with one by Placido, the father (Beolco 1967:1053 Benché...fatto.), shows them to be very similar. The values for most indicators are in the middle range, effectively neutralizing the differences between the languages and, by implication, the attitudes. Both characters show some signs of tension, however, correlating with the self control of people involved in the conflict between emotion and reason. The father declares that he will be generous to his son though he disapproves of his actions, while the servant ironically observes that two oxen (symbols of hard work) fetch less money than a swift horse (symbol of glamour).

The percentage of voiceless consonants is 39% and 37% respectively, the proportion of vowels to consonants 49% for both, that of vowels in a voiced environment 46% and 48%, that of stressed vowels 49% and 45%, that of /s/ 9% for both. Although the rate of high vowels is 20% for Truffo and 15% for Placido, the occurrence of /i/ is 79% and 100%. The instance of low vowels is 23% in Truffo's speech, but only 13% in that of Placido. The largest percentage of vowels in the latter's speech is that of mid vowels (72%), congruent with the rational moderation extolled in it. Tension manifests itself in the high percentage of changes in points of articulation (68% and 70%), the low instance of intervocalic consonants (19% and 20%) and the large number of clusters (in Truffo's speech eight are high or rising and three low or falling; in Placido's speech the figures are six and four respectively). An unusually high number of glides (six, three of them labial) is found in Truffo's speech. This dense presence appears to be linked with an attempt to deflect tension, as a comparable instance occurs in Bilora's tirade against Pitaro. Other indicators of intensity and duration are characteristically moderate, with the single exception of a dense presence of nasals (31%) in Placido's speech. Since, however, he is pontificating on his virtues as a father, they may serve to give his words a resonant quality.

The infraboundary segments in Truffo's speech lengthen over the course of the sentence, while Placido's undulate in a short-long, short-long sequence reminiscent of classical oratory. The rhythmic groupings and stress placement of Truffo's speech change rather abruptly, while for Placido they are evenly paced. The master's speech shows sophistication through the use of an imperfect subjunctive in a left-branching construction. But that of his servant, whose reputation for craftiness is embodied in his name, is even more complex, with double center embedding and a gerund. Truffo's role of executor of his master's will is apparent in the high ratio of transitive to intransitive verbs (five and two) as compared with the instance in Placido's speech (two and three).

The observation of acoustic patterns in Beolco's plays led me to ask what might be the basis of their emotional significance, which led in turn to an examination of the sound systems of bird and animal cries. What emerged was a striking similarity between the plays and the system of harsh noises widespread among bird and

animal species (Rowell and Hinde 1962; Frings, Frings, Jumber, Busnel, Gibian and Gramet 1958; Frings and Frings 1959; Smith 1977; Eisenberg and Golani 1977; Poduschka 1977; Walther 1977; Klingel 1977; Fox and Cohen 1977; Pruitt and Burghardt 1977; Morton 1982). High frequency calls are associated with a sense of threat and helplessness or with the thwarting of desire for food or affective contact. A rise in pitch indicates a wish to appease an aggressor. Calls on a falling or low pitch (usually marked by intensity and duration) signal aggressive intent. Calls in the middle range (frequently broken into segments fluctuating in pitch) indicate that the individual is fearful but willing to attack; they often serve as mobbing calls bringing members of the group together in a united defense. Mid-range calls characterized by falling pitch and intensity indicate that the need for food or affection has been met or that danger has passed. The origin of the correlation seems to lie in its symbolization of size (Morton 1982:188) in that a small animal, which produces a high-pitched call, is fearful, while a large animal, whose call is low-pitched, is confidently aggressive. The physiological mechanism of sound production (Dickson and Dickson 1982:137-8) and its correlation between increased muscle tension and higher pitch reinforce these values, especially in view of the fact that fear often results in increased muscle tension. The interesting hypothesis advanced by Fox and Cohen for canids that the high-pitched cries used by infants to alert the mother to their distress are later incorporated into adult vocalizations as a means of stopping an aggressor's attack may apply broadly to this system.

Reviewing the Beolco plays in these terms deepens our understanding.[4] Arpino's high pitch and tension correspond to his anxiety for Ruzante's help and his fear of the strapping bumpkin. The instance of /i/ should be noted here and in other plays because its articulation produces a fear grin. Ruzante's low, intense sounds signal aggressive intent. The sharp, taut quality of the first three passages of the Seconda Oratione communicate Beolco's fear at criticizing the powerful who patronize him and his attempt to keep them from retaliating, as well as the acute tension which accompanies hunger (Rowell and Hinde 1962:283,292). The mixture of sounds in the fourth passage of the Oratione is perhaps the most complex, with its high elements linking appeasement of the powerful who have fed him with remembered fear of hunger and the low elements linking gratification with a threat to the Cardinal of the consequences if he had not helped him. Bilora first shows his sense of helplessness and frustration when his friend's intervention does not bring his wife back, and when he has decided upon his revenge, his speech changes. It is marked with the rising and falling of vowels reminiscent of a mobbing call. During the murder Bilora is confident that the weak old man will not harm him and his speech resembles the low prolonged vocalization of a strong animal. The vowels of the words that Andronico utters as he dies recall remarkably the call of a wren losing a fight as recorded by Morton (1982:194). Then when Bilora realizes that he has performed an act which may bring about his own destruction [early in the

play (551), he observed that Venetians use the canals to rid themselves of troublemakers], his pitch rises again. The determinedly middle level of the Vaccaria displays not only moderation but the complete lack of spontaneous emotions. Both characters state that actions do not correspond with instinctive values, showing a frustration which accounts, I believe, for the few points of tension in their speech.

This interpretation offers interesting possibilities for the question of sound symbolism,first posed by Baudouin de Courtenay (Jakobson 1978:34). In his consideration of the question, Edward Sapir concluded that there were two types of sound symbolism: referential, in which the repeated linking of sound and referent creates an association; and phonetic, in which the acoustic or articulatory properties of the sound are an analogue of its meaning (Sapir 1929). Linguists responded with caution to the notion of sound symbolism, and even when affirming its importance, have concentrated on the referential type or invoked the principle of synaesthesia (Benveniste 1939; Hymes 1960; Jakobson 1960:372-3; 1978). Perhaps the apparent mysticism of phonetic symbolism seemed to defy a rational approach. However, scientific studies are possible, as Roger Brown has shown (Brown, Black and Horowitz 1955). On the basis of the analysis of Beolco's plays, I believe that one may hypothesize, for example, that the same association of high pitch with frustration or weakness that has already been posited for sentence intonation (Bolinger 1978:513-4) exists at the level of phonetic segments. Beolco assigned to his characters two languages whose different sound systems were emblematic of the anxiety caused by urban society and its rules (Tuscan) and of the menace posed by a powerful, subjugated nature (Pavan). By altering the ratio of of phonetic segments (Hymes 1960:113-4, 129), he chronicled the changing attitudes of the two. The rooting of the meaning signalled by pitch, duration and intensity in physical size and motivational state lies at the heart of sound symbolism and warrants further investigation.

NOTES

[1] This corrects a previous error (Carroll 1981:102). Other corrections to the same work appear in a forthcoming article (Carroll in press:note 5).

[2] Unable to find studies of this type for Italian, I chose phenomena which were as widespread and uncontroversial as possible, paying particular attention to information on Romance languages. References to pitch in consonant clusters concern the voiced or voiceless qualities of the consonants, e.g. a cluster composed of a voiced consonant and a voiceless one has a rising pitch.

[3] For the Pavan of this period, see Carroll (1981: Ch.2). Decisions on material: qu in Pavan probably did not retain the w in pronunciation, although it did in Tuscan; geminates are counted as two consonants (Ladefoged 1975:223-4); pre-clitic consonantal particles are counted as word-initial segments. I have accepted Zorzi's evaluation of sentences as exclamations; syntactic boun-

daries correspond to prepositional phrases, constitutents of coordinates (Lea 1977:109-10), and clauses (Sorensen and Cooper 1980: 424-5), apart from those dependent clauses modifying nouns, which I have excepted as an extrapolation of Lea's findings (1977:109-10). Graphic conventions used in the Beolco text: gli=/ʎ/, i.e. one segment; z represents /z/ in Pavan but in Tuscan it represents /ts/ in some words and /dz/ in others; intervocalic -s- =/z/, but in preconsonantal position it has the voicing of the consonant; h is used with velar consonants followed by front vowels and has no sound value. Pavan shows more tension than Tuscan in its diphthongization of vowels in closed syllables, devoicing of stops after nasals, resolution of diphthongs to a single high vowel and loss of final unstressed vowels. More intensity comes with the voicing of intervocalic consonants and the higher proportion of stressed vowels resulting from syncopation, as well as the higher numbers of vowels in voiced environment. Beolco varies his use of these features with his plays, as he does the instance of the emphatic subject pronoun mi and the particle sí.

4 No claim is made concerning the conscious intentionality of the author. Pietro Bembo touched on the psychological symbolism of sounds in the 1549 edition of his Prose della Volgar Lingua (Bembo 1966:142-5,147-8,160, 166-7). However, I was unable to obtain a copy of the 1525 edition (the only one available to Beolco) to ascertain whether it contains these comments.

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OLD ENGLISH: A LANGUAGE INDO-EUROPEAN IN FORM BUT NOT FUNCTION

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The structure and function relationship of the Old English nominals differs greatly from that depicted in the literature where both form and function are shown to be Indo-European in character. Old English is presented in the traditional manner as one of the Indo-European inflection/case languages which has, like them, sets of morphological inflections for the various noun classes and a variable word order. The variable word order is permitted by the inflectional system. The inflections are said to indicate grammatical case, and case, in turn, specifies nominal semantic role. However, the manner in which the grammar is presented in the literature reveals that a dichotomy exists in current thought regarding the nominal form/function configuration. The first view is implicit, ascertained only by what is not stated rather than by what is. The inflections for each noun declension, including all varients for each case, are arranged paradigmatically in association with each grammatical case. However, there is no discussion or analysis of the various case functions. This omission supports the interpretation of scholarly uncertainty about the inflection/case relationship, suggesting there is some question about whether or not in Old English the inflections signal case functions at all (cf. Bright 1917; Campbell 1959; Cassidy and Ringler 1971; Flom 1930; Klipstein 1857; Moore and Knott 1955; Ross 1951; Sievers 1898; 1903; 1950; Wright 1923; 1925).

The second view found in the literature is that the morphological inflections specify grammatical case which, in turn, specifies nominal semantic role, even though there does not seem to be a good match between inflection and case, and between case and semantic role. There are actually two interpretations of this second position. In the first, case is discussed mixing terms from two separate classes of function: the terms 'subject', 'direct object', and 'indirect object', all grammatical functions, are used concomitantly with the terms 'agent', 'benefactive', 'locative', etc., all semantic roles (cf. Cook 1921; Diamond 1970; Mitchell 1978; Visser 1984). In the other interpretation case is discussed solely in terms of semantic role (cf. Davis 1953; Kispert 1971; March 1870; Quirk and Wrenn 1957). Both interpretations have existed from the beginning of modern scholarship. The origin of the latter position seems to be the result of transfer to Old English of that which is found in the other Indo-European languages, particularly those languages with a long history: what occurs in Latin and Greek should occur in Old English also.

Few have ever challenged the views found in the literature.

This dichotomy in the scholarship arises because, even though Old English has inflections, it is not an inflectional language in the classical sense. Some scholars interpret the function of the inflections in the traditional way, while others, sensing that the traditional analysis is inadequate and apparently not knowing why this is so, do not discuss the inflections at all. Their hesitancy is well founded. Contrary to other opinion, Old English does not have a functioning inflectional/case system in which case is clearly distinguished by inflection and semantic role information set forth. Analysis has shown that although nominal inflections are present in Old English, these inflections do not have deictic function that would indicate both grammatical case and semantic role. All too often in Old English the same inflection is associated with multiple roles and multiple cases across the noun class spectrum. Figure 1 illustrates the overlapping of case, noun class, and form, with the result that neither case nor noun class controls distinctive inflections. The inflectional forms are indeterminate as to case and nominal role. Visser, most notably, but also many others, insists that in all instances each inflection indicates a different case and concomitantly a different relationship, and even if an inflection is indeterminate for case in a particular instance, past experience shows which case is indicated by the indeterminate inflection--a somewhat dubious conclusion.

Old English is presented in the literature as if it has a five-case system, even though the nominative cannot be distinguished from the accusative in most instances, nor the instrumental from the dative. Furthermore, case indeterminacy is the rule, not the exception as not one inflection but multiple inflections are associated with each case. Old English is a word order language with a binary system of grammatical function where either 'subject' or 'not subject', and 'primary object' or 'not primary object' are signalled by word order. What appears to be inflectional signalling, when the form is distinct for case, is only a matching of word order indication. The inflectional system throughout all of Old English is certainly moribund, a relic of the earlier viable system. Word order is the primary signalling system in Old English, having replaced the inflectional system.

The assertion that Old English has five cases is based on the instrumental case forms found in the strong adjective declension and in the demonstrative pronoun declensions. However, no distinctly instrumental forms occur in the nominal declensions; the dative endings are used for the instrumental. As a result, only context can show whether the dative inflection has dative or instrumental force. This set of circumstances actually shows the opposite to the claim of a five-case system: Old English has not case system, and the instrumental forms are archaic residuals from the inherited, not longer viable, case system. The truth of this is supported

1. Null
a. N/A sg
m,n a-stems
m,n wa-stems
r decl
nd-decl
er-decl
rad cons decl
f i-stems
f u-stems
b. N/A pl
n a-stems
nd-decl
c. G sg
r-decl
d. D/I sg
r-decl

2. -es
a. G sg
a-decl
i-decl
r-decl
nd-decl
er-decl
rad cons decl

3. -ra
a. G pl
nd-decl
r-decl
er-decl

4. -e
a. N/A sg
m,n ja-stems
m,n i-stems
n n-decl
b. G sg
o-decl
f i-stems
f abst nouns in -u,-o
c. A sg
o-decl
f i-stems
f abst nouns in -u,-o
f n-decl
d. D/I sg
a-decl
o-decl
i-decl
f abst nouns in -u,-o
nd-decl
er-decl
e. N/A pl
o-decl
f, m i-stems
f abst nouns in -u,-o

5. -an
a. A/G/D/I sg/ N/A pl
n-decl

6. -a
a. N sg
m n-decl
b. N/A sg
m u-stems
c. G pl
a-decl
o-decl
i-decl
u-decl
f abst nouns in -u,-o
r-decl
nd-decl
er-decl
rad cons decl
d. N/A pl
o-decl
f i-stems
u-decl
f abst nouns in -u,-o
e. D/I sg
u-decl

7. -ena
a. G pl
n-decl
f o-stems

8. -um
a. all noun classes

9. -u
a. N/A pl
n a-stems
n i-stems
m u-stems
f abst nouns in -u,-o
b. N sg
f o-stems
f wo-stems
c. D/I sg
m u-stems
f abst nouns in -u,-o
d. A sg
f abst nouns in -u,-o
e. G sg
f abst nouns in -u,-o

10. -rum
a. D/I pl
r-decl
er-decl

11. -o
a. N sg
f o-stems
f abst nouns in -u,-o
b. A sg
f abst nouns in -u,-o
c. G sg
f abst nouns in -u,-o
d. D/I sg
f abst nouns in -u,-o
e. N/A pl
f abst nouns in -u,-o

12. IVC
a. D/I sg
r-decl
nd-decl
rad cons decl
b. N/A pl
nd-decl
rad cons decl
c. G sg
rad cons decl

Figure 1: Inflections with Associated Cases and Noun Classes

by those sentences in which the nominal inflection is indeterminate, and there is no demonstrative associated with the nominal which could indicate case, as in

(1) ge witgene lare [gentive, dative, accusative sg, nominative, accusative pl] onfengon Cynewulf, Elene 335
[you received the lore of the wise men]

Case indeterminancy can only mean that the inflectional forms are redundant. Analysis of the Old English texts reveals that case indeterminancy existed throughout all of Old English and occurs in all of the noun classes and is found in all extant texts.

Further evidence to support the contention that neither semantic role nor case is indicated by inflection is given in those sentences having the same verb but with the object nominal carrying a different inflection in each sentence:

(2) Se faeder wiþsoc þam bearne [dative], þaet bearn wiþsoc þone faeder [accusative], and aet nextan aelc freond wiþsoc oþres [genitive] AElfric, Homilies (Thorpe) i, 23, 110
[The father denied the son, the son denied the father, and finally, each friend/lover denied the other]

Visser insists that the different object inflections indicate a separate grammatical case and, therefore a different semantic role. The benefactive/recipient role is assigned to the dative, the affected to the accusative, and cause to the genitive, and in this sentence a different nominal relationship occurs in each clause (2 above) (280-382). Pope says that for 'wiþsacan', the different case endings are used to indicate the status and role of the nominals in relationship to each other, and that when the dative or genitive object is associated with 'wiþsacan', its meaning is 'to reject/renounce the authority and practice of someone' and with the accusative, 'to deny/renounce a superior'. He also adds as an aside that the distinction between the two is doubtful (940). The problem is that the presence of case alternation is not perceived, nor the fact that the oblique inflections simply indicate 'not subject' with the result that each clause in the sentence has the same meaning (as the gloss shows). Case alternation is a development in a language which has changed from semantic role indication to grammatical function indication. It has existed from early Old English through Late Old English:

(3) naebbe ic faeted gold [accusative] ne feohgestreon [accusative]...landes [genitive] ne locenra beaga [genitive] Andreas 301
[I don't have decorated gold, nor treasure...land, nor locked rings (chain mail)]

(4) hit sceal life [dative] onfon, feores [genitive] aefter

foldan Judgment Day I 99
[it (the body) shall receive life, life after earth (death)]

Case alternation always involves the same verb with its object noun in different cases, an alternation of genitive/dative, accusative/genitive, accusative/dative, and accusative/genitive/dative (Collins 1980):

(5) He onfeng torhtum tacne [dative] Genesis A 2374
[He received the splendid token (circumcision)]

(6) Mid þon þe hie þaes cristendomes [genitive] onfengon AElfred, Orosius 6, 4 (contrast with 7 below)
[When they received Christianity]

(7) ...Cristendome [dative] onfon Aelfred, Orosius 6, 13
[...to receive Christianity]

(8) ic onfeng þin sar [accusative] Christ 1461
[I received thy pain]

Since the inflectional system is no longer viable, case alternation causes no misunderstandings. It simply parallels the information given by the word order system with the oblique inflections reflecting the information 'not subject'. The combination of case alternation and case indeterminancy together reinforce the conclusion that word order only signals function and that what is signalled is grammatical function rather than semantic role. If case can't be determined, then, concomitantly, semantic role cannot be determined either. This leaves only grammatical function to be indicated as word order cannot possible signal semantic role.

One feature inherited by all the Indo-European languages is that the common order of nominals is subject-object regardless of verb position. The second inherited feature is that case and semantic role are signalled by inflection. Old English at first glance seems to be no different. However, it is different. Since indeterminate case forms occur during the whole Old English period, something else has to distinguish subject from object, and primary object from secondary object. Word order is the only system available to fulfill this function. The common (unmarked) nominal order is subject-object (9, 11, 12 below) regardless of the verb position. The marked order (10, 13, 14 below) in which the object precedes the subject, the distinction between the two is made by context, while inflection, if distinct, can only repeat known information. This provides further evidence that the inflections are redundant.

Saitz (1955) in an analysis of inflection and word order in 9th century English makes the point that inflection distinguishes subject from object in only 41 per cent of instances in his data;

and (a) of this 41 per cent where inflection does distinguish subject from object, word order (S-O)also distinguishes subject from object in 93 per cent; and (b) in the instances in which the subject is not distinguished from object by inflection (59 per cent), because the inflections are indeterminate for case, word order distinguishes subject from object in 94 per cent. Cassidy and Ringler, in their discussion of Saitz' findings, assert that word order "probably has syntactic force" and that "the establishment of S-O order may even have contributed to the breakdown of inflection" (92-93). Analysis, however, suggests that the opposite is true for Old English: the inflectional system even before the 9th century was no longer a viable system. The inflectional endings for many of the noun classes had become identical through sound change. The word order system developed in order to distinguish subject from object. The collapse of the case system is clearly shown in the early use of the dative form of the personal pronoun paradigm 'him' for the accusative form 'hine' (and 'me' for 'mec', and 'us' for 'usic') so that only context determines whether the dative or the accusative force is meant when the dative forms are used (cf. Malone 1936). In order for a case system to work, the form must clearly show which case is meant. Word order as a deictic system developed to fill a pressing need which the inflectional system did not and could not fill. Figure 1 shows that in Old English the use of a particular inflection could cut across all noun classes and all cases. A system with this level of complexity, a complexity bordering on chaos, shows this to be no system at all, but an aggregate of endings that offers only happenstance duplication of word order information. Sometimes the inflections just happen to 'match' the information indicated by word order, but many times they do not.

The sole function of word order in Old English is to indicate grammatical function--to distinguish between subject and object(s) or between objects. It is a word order of nominals only, differing from the almost universal assumption that the verb always distinguishes object from subject by their position in the clause in relation to the verb (cf. Lehmann 1978a; Li 1975). Since the verb position in Old English is so variable, it is not hard to understand why the language is said to be inflectional and with deictic function of the inflections. A cursory glance at the Old English texts shows that word order seems to be relatively free with sentence elements placed in just about any order:

(9) þaer abidan sceal [verb] maga [subject]...miclan domes [object] Beowulf 977 (VSO)
[there the man shall await...the great judgment]

(10) swae hiene [object] mon [subject] aer geþyldelicor forbaer [verb] AElfred, CP (Sweet) 294, 2 (OSV)
[as one bore it patiently before]

(11) he [subject] þa metode [object] oncwaeþ [verb] Genesis A

2347 (SOV)
[he then answered the Lord]

(12) se feond [subject] aefestgende [verb] his godra weorca [object] Waerferth, Dialogues of Gregory 211, 12 (SVO)
[the enemy (Satan) is envying his good works]

(13) oþþaet him [object] onwoc [verb] heah Healfdene [subject] Beowulf 56 (OVS)
[until the exalted Healfdene was born to them]

(14) openyaþ [verb] me [object] gatu [subject] rihtwisnysse Psalter (Spelman) 117, 19 (VOS)
[the gates of rightousness shall open for me]

Old English is also said to have case governance by verb and by preposition. The verb, because of its meaning within a semantic field, demands that the object noun carry a specific case to indicate the role of the object noun in relation to the verb semantic field. This is an inheritance from the proto-language and common also to Gothic, Latin, Greek, and Sanskrit. However, in Old English although sentences occur in one text in which verb governance seems to occur (15 and 17 below), paralleling case governance in Gothic and Old Saxon (16 and 18 below),

(15) ic þe þaes lean [genitive] geman [verb] Beowulf 1220
[I shall remember the reward for you]

(16) gamaunda [verb] waurdis [genitive] Gothic Bible, Matthew 26, 75
[(he) remembered the word]

(17) gif we...þaes unrihtes [genitive]...geswicaþ [verb] Elene 516
[if we betray (cease) evil]

(18) that wili iuwar...en trewono [genitive] geswikan [verb]
[that one of you will betray (his) truths]

other sentences occur with the object noun in the other oblique cases (19 and 20 below). Their occurrence clearly denies the presence of verb governance.

(19) þaet ic þinum larum [dative] geswice [verb] Andreas 1292
[that I betray thy teachings]

(20) gif he þaet eal [accusative] gemon [verb] Beowulf 1185
[if he remembers that all]

The variation in object inflection indicates that verb governance does not occur in Old English at all. The same conclusion applies regarding the presence of prepositional governance. Semantic

information is not conveyed by the inflection assigned to the prepositional object. In order for 'wiþ' to have the adversarial meaning 'against', its object should be in the dative; yet, as the citations below show, the prepositional objects can carry any of the oblique inflections in association with the meaning 'against'.

(21) Deofles anda biþ astyred wiþ þin [genitive] AElfric, Homilies (Skeat) ii, 30, 115
[The devil's malice is raised against thee]

(22) Breostnet wiþ ord [accusative] and wiþ ecge [dative] ingang forstod Beowulf 1549
[The burnie withstood entrance/ingoing against point and against edge]

The above examples are clear instances of case alternation involving the prepositional and verb objects. Their occurrence denies the existence of either prepositional governance or verb governance in Old English.

Another argument in the literature is that case alternation, alit is not so labelled, indicates a change in verb meaning. For example, if the object carries the dative inflection, the meaning of the verb 'beswician' is said to be 'to survive'; if the object carries the genitive inflection, the verb meaning is said to be 'to escape' or 'to escape from'. This is not substantiated by an examination of the various occurrences of 'beswician' with either the genitive or dative inflection on the object noun. The oblique inflections simply say 'not subject'. Object noun case does not change the meaning of the verb in Old English.

Furthermore, as an indeterminate inflection on the object noun cannot indicate a different verb meaning under any circumstance, Cassidy and Ringler's labelling of 'aermþa' as dative and assigning the meaning 'to survive' to 'beswician' (23 below), also labelling 'hond' as genitive, giving the same verb the meaning 'to escape' or 'to escape from' (24 below) stems from their idea that it takes two Modern English verbs to understand this Old English passage (402). Circumstances such as this do not occur in in Old English. This is reification caused by the fact that 'beswician' no longer exists in English.

(23) gif he þaere tiide aermþa [indeterminate] biswicade... AElfred, Bede, Ecclesiastical History of the English People, Book II, Chapter IX, 15
[if he in that time escaped (from) misery]

(24) þu nu hafast þurh Godes gife þinra feonda hond [indeterminate] beswicade... AElfred, Bede, Ecclesiastical History of the English People, Book II, Chapter IX, 106
[you now have escaped (from) thy enemies' hands through God's gift]

The modern glosses given in the various grammars and dictionaries for the Old English verbs which no longer exist are all variations in a semantic field: they are not completely different and separate meanings in relation to the Old English meanings. This interchange of object noun case/inflection has nothing to do with the various connotations of 'beswician'. These are actually more instances of case alternation. That object noun case does not affect the verb meaning is illustrated in the sentences below where different meanings are given for the verb 'cnyssan' but the object case in each sentence is the accusative. This further supports the charge of reification.

(25) ond *þas stanhleoþu* [accusative] stormas cnyssaþ *Wanderer* 101
[storms beat against/batter the rocky slopes]

(26) ne se heardra forst caldum cylegicilum cnyssaþ *aenigne* [accusative] *Phoenix* 59
[the hard frost with cold icicles does not afflict/trouble any]

The gloss 'beat against/batter' could equally well be used to translate 26 above as well as 25. Within the context of *Phoenix* the use of 'trouble/afflect' is not as felicitious a choice for conveying the passage meaning as 'beat against/batter'. 'Afflict/trouble' seems to have been selected because of the word 'aenigne' with its feature 'human'.

Cassidy's unpublished study of the Old English inflectional system revealed that in 90 per cent of the instances where the case of the nominal could not be ascertained, there was an associated demonstrative that clearly defined the case (Fries, reporting Cassidy's data). However, a later analysis has shown quite different results (Collins, unpublished analysis). Here it was found that 63 per cent of the nominals in the test sample had indeterminate endings, while the remaining 37 per cent were clearly marked for case. Of the 63 per cent with indeterminate endings, 89.9 per cent were not associated with a demonstrative that could indicate case. Only 10.5 per cent of the indeterminate nominals are associated with a demonstrative that marked the case. Of the 37 per cent with clearly marked nominals, 82 per cent were associated with a demonstrative that repeated the nominal case; only 18 per cent of this group had case indicated solely by the nominal inflection. These findings are just the opposite of the earlier study.

The Old English inflectional system is frequently said to be a decaying system. Two cause are given for this 'decay' and the eventual reduction of the endings to schwa in Middle English. One is that the increasing stress on the root syllable in Old English with the concomitant lessening of stress on the suffix brought about the eventual reduction of the inflection to schwa. The second cause given is that the various inflections "fell together" because of phonological change, giving rise to those inflections that are

indeterminate for case. It is also argued that the decay had to occur before a fixed word order could fill the vacuum left by the rise of the indeterminate inflections. A transitional period is always given for this. It conveniently occurs during the period between the last Old English text and the appearance of the first Middle English text, some 150 years). I submit that the time of the transitional period is set too late in time. Instead of it being the time between Old English and Middle English, the transitional period encompasses all of historic Old English at the least. The data permit no other time frame. Sometime between 449 A.D. and historic Old English, the case system inherited from the proto-language became redundant so that case with associated semantic role could no longer be indicated. Instead, grammatical function was then indicated. Once grammatical function was all that was indicated, then case alternation could occur. When the various suffixes became indeterminate through various phonological changes, then the already present word order could assume deictic function. The change from case function to grammatical function had to have occurred before case alternation could occur. The texts themselves show that case alternation existed throughout the entire historical Old English period. If all that was being distinguished was grammatical function, then word order was sufficient.

Old English is a transitional language for the whole period. It is a language changing its typological organization from SOV, the inherited typology, the order competing for dominance and, therefore, to be the new unmarked order. Old English is a word order language in which grammatical function is indicated. Word order does not match grammatical case, but case, willy nilly, can match word order indication of subject and object. This word order is a word order of nominals only, with the verb position irrelevant. This accounts for the verbs variability in position. The inflectional endings present, even though there is no viable case system existing, are relics, destined to go from the language. They have no function; they only repeat the information which word order signals and only when their forms are distinct. Context is the primary indicator of nominal function when word order cannot (e.g. reversed word order). Neither grammatical case nor associated semantic role are indicated at any time in Old English. The causative factors for all these changes occur prior to historic Old English. The data support each of the above statements about the various aspects of the nominal signalling system in Old English with no known exception.

Data analysis of the verb system demonstrates that here also the inflections do not clearly distinguish separate verb functions. Various verb inflections too often cut across the verb classes and verb functions, the same situation found in the noun system and illustrated in Figure 1. A single inflection can have too many meanings for any one to be distinct. The effect of these developments in the verb system may well be the cause of innovation of the periphrastic verb cluster.

The developments reported above cannot possibly be unique to Old English. I suggest they will occur in any language that is transitional, changing from an inflectional language with a case system to one with a word order system.

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A COMPARATIVE SYNTACTOSEMANTIC RECONSTRUCTION OF THE ABSOLUTE CONSTRUCTION IN INDO-EUROPEAN

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1. Introduction. In this paper I claim that so-called absolute constructions found in Sanskrit, Ancient Greek, Latin, Gothic, Lithuanian, Old Church Slavonic, and other older descendant languages of Proto-Indo-European (PIE), were inherited from the parent language. Throughout this paper, I shall retain the traditional name for these constructions, simply because it is so well established in linguistic literature. Absolute constructions are not, however, absolute in the true sense of the word, as vocatives and interjections are, but rather they are adverbial phrases which are derivable from adverbial clauses. (Cf. Curme 1922:551f.; 1931:152, 176, 197.) As such, they are, like adverbs, substantival adverbs, adverbial clauses, and prepositional phrases, manifestations of adverbial roles like definite time, indefinite time, extent of time, condition, concession, cause, accompaniment, etc. I demonstrate that absolutes with these roles may be reconstructed for PIE by applying procedures of comparative syntactosemantic reconstruction to data from the above-named descendant languages; the data are formulated within the theoretical framework of the four-cell tagmeme of Pike and Pike's (1982) Grammatical Analysis.

Before I present a syntactosemantic reconstruction of absolute constructions in PIE, I will briefly review earlier and more recent claims concerning the time of origin and manner of development of the absolute construction (Section 2). I will then discuss a method for syntactosemantic reconstruction which utilizes the principles of the comparative method that Hoenigswald (1960) applied in phonological and morphological reconstruction; in this method, I make use of the tagmeme and syntagmeme as developed by Pike (1972), Pike and Pike (1982), Longacre (1960, 1964), Brend (1968), and others (Section 3). I will then apply the procedures of comparative reconstruction to data from Sanskrit, Greek, Latin, Gothic, Lithuanian, and Old Church Slavonic, and demonstrate that on syntactosemantic grounds, absolute constructions filling the

roles definite time, indefinite time, extent of time, condition, concession, cause, and accompaniment, are to be reconstructed for PIE (Section 4).

2. Previous views concerning the time of origin and manner of development of the absolute construction. In the last century or so in which historical linguists have been attempting to reconstruct the syntax of PIE, most investigators have come to the conclusion that absolute constructions did not exist in PIE, but rather that they developed independently in the various descendant languages of PIE; in other words, with respect to absolute constructions, these descendant languages underwent what Sapir (1921:197) called parallelism in drift when he was discussing phonological and morphological change. It would be instructive to enumerate very briefly the views of a number of past investigators concerning the manner and time of origin of absolute constructions, and to consider the reasons that led them to their conclusions. Berthold Delbrück (1897:493f.) in his Vergleichende Syntax der indogermanischen Sprachen was of the opinion that absolute constructions were the result of a reanalysis of a construction in which a participle modified a noun which was functioning adverbially. In other words, Delbrück claimed that a construction with the structure participial noun modifier plus noun, which was functioning adverbially, became a construction with the structure non-finite predicate plus argument or arguments, which ceased to have any connection with adjoining constructions or their constituents. That is to say, Delbrück maintained that so-called absolute constructions are absolute in the true sense of the word, like vocatives and interjections. It is unfortunate that Delbrück did not elaborate on how such a reanalysis took place. While a reanalysis of this type is theoretically possible, I doubt that such a drastic shifting of functions internal and external to a construction has ever been observed in the history of any language. As far as the time of origin of absolutes is concerned, Delbrück assumed that they developed independently in the various descendant languages of PIE. Again, it is unfortunate that Delbrück did not present any arguments in support of this view.

Hermann Hirt (1934:180) in his Handbuch des Urgermanischen agreed with Delbrück as far as the manner of origin of absolutes was concerned, and also as far as their being truly absolute, as are vocatives and interjections. Unlike Delbrück, however, Hirt felt

that absolutes originated in PIE. Hirt's reason for believing this was that, according to him, absolutes were dying out in the oldest descendant languages of PIE, and therefore they must have been in existence for a very long time. The general principle underlying Hirt's syntactic assumption is essentially the same one that motivated Swadesh in his glottochronological formulations concerning the lexicon, namely that linguistic units have a certain lifespan, after which time they pass out of use. Unfortunately, with respect to syntax, it can be proved that this principle does not apply to syntactic constructions. For example there existed in Old High German, Middle High German, and early New High German a periphrastic verbal construction indicating continuance of action, the verb to be plus present participle (cf. Curme 1922:285f.). In time, the infinitive came to vary with, and eventually to replace the present participle. Although this construction fell out of use in one descendant of Middle High German, i.e. Modern Standard German, it has survived in a restricted way, in another descendant of Middle High German, Yiddish (cf. Weinreich 1980:38, 615). After losing the meaning of continuance of action, and thus becoming simply a periphrastic alternant of the synthetic verb forms, the Yiddish construction came to be reserved for one small set of verbs of Hebrew origin; thus the periphrastic construction koyne zayn 'to buy' exists along side the synthetic verb koyfn 'to buy', albeit with stylistic differences in distribution. Thus, since the length of the life of a syntactic structure originating in a parent language may differ from one descendant language to another, Hirt's conclusion concerning the time of origin of absolute constructions cannot be justified.

Winfred Lehmann (1974:22) in his Proto-Indo-European Syntax presented a new account of the manner of origin of absolute constructions. Assuming that early PIE was typologically an Object-Verb (OV) language (cf. Lehmann 1974:30), and noting that the descendant languages of PIE show to some extent or other the characteristics of Verb-Object (VO) languages, Lehmann further assumes that absolute constructions are a characteristic of typologically ambivalent languages. "We account for [absolute constructions]," according to Lehmann, "by assuming that when languages are neither OV nor VO, embedding can occur either before the OV constituent of complex sentences or after it. The embedded sentence cannot then be consistently placed with reference to a noun, in the normal way for relative constructions. Accord-

ingly, a nonrelating, or absolute, construction develops..." (p. 22). There are several problems that are involved in this account. The first is that Lehmann assumes, not evidences, that absolute constructions are a characteristic of ambivalent languages. The second is that even granting that this assumption is accurate, Lehmann contradicts his earlier claims that PIE was OV when he himself states that "The common trend toward VO patterning, apparent even in Anatolian, indicates however that late PIE must have been changing from an OV structure. To what extent its earlier structure was consistently OV cannot be ascertained, at least for the present" (p. 250). (Cf. also Lehmann 1974:26.) Thus one cannot rule out the possibility that the ambivalence that Lehmann assumes allows for embedding before or after the VO constituent was a characteristic of PIE, and therefore, even within Lehmann's framework, the absolute construction could have originated in PIE, rather than in its descendant languages, as Lehmann claims. Yet another problem is that Lehmann claims that absolutes developed from relative clauses that cannot be placed with reference to a noun. In other words, Lehmann is claiming that relative clauses modifying a noun become a construction with the structure non-finite predicate plus argument or arguments, which ceased to have any connection with adjoining constructions or their constituents. Once again, I doubt that such a reanalysis has ever been observed in the history of any language. Moreover, Lehmann contradicts the above account (Lehmann 1974:22) later on in his book when he states:

> "I have proposed that absolute constructions arose as the various dialects were developing from OV to VO languages. During the transition period a participle might be related either to a preceding or to a following finite verb. Accordingly the participle and its noun were used 'absolutely,' without reference to a finite verb, in the Sanskrit locative absolute, the Greek genitive absolute, the Latin ablative absolute, and the Gothic, Slavic, and Baltic dative absolute [italics mine throughout--JC]" (p. 211).

Although in this second account Lehmann maintains that the participle and the noun are used 'absolutely,' without reference to a finite verb, he also contradicts this assertion as well when he states that "the uses [of absolutes] vary considerably from manner to time to means, and so on" (p. 210).

Because of these contradictions, I cannot agree with Lehmann's views concerning the manner and time of origin of absolutes.

3. Comparative syntactosemantic reconstruction.

3.1. Prefatory remarks concerning the absolute construction and its syntactic function. Before I present a syntactosemantic reconstruction of so-called absolutes, it would be well to reiterate that these constructions are not absolute in the true sense of the word. As Curme (1922:551f.) noted, the term absolute is properly applied to elements that are syntactically independent of other elements, such as vocatives and interjections. The participial phrases discussed in this paper, however, function syntactically as adverbial clauses. Also, syntactosemantically, these participial constructions fill the same roles as adverbial clauses, such as definite time, indefinite time, extent of time, condition, concession, cause , accompaniment, etc. Although I have never read an account of why these constructions were called absolutes, I believe that the term originated among classicists, who encountered these phrases with ablative inflection in Latin, and genitive inflection in Greek. Classicists could not explain the appearance of these constructions in the ablative or genitive cases as being called for by (a) a preposition, or (b) any of the functions typically manifested by nouns in these cases in Latin and Greek, respectively. Thus one might conclude that if the typical syntactic relationships were not involved in the appearance of the ablative or genitive in these constructions, no relationships were, and thus, the constructions were absolute, i.e. independent of all other elements in the sentence. What must be overlooked in such an account, of course, is the perhaps less frequent occurrence of adverbial noun phrases appearing in the ablative in Latin, e.g. hieme 'in the winter' and in the genitive in Greek, e.g. tou epigignomenou kheimōnos 'in the following winter'. To summarize, then, in the classical languages, and in other descendant languages of PIE as well, the syntactic function that I refer to as adverbial may be manifested in a number of ways, including as an adverb, a noun phrase, a clause, and a participial phrase. Curme (1931:152, 176, 197) recognized the equivalency relationship that adverbial and other types of clauses had to various adverbial and other types of phrases, and thus proposed to call the latter constructions abridged clauses. A detailed discussion

of this term as used by Curme goes beyond the scope of the present paper, but I believe that its use here is in the sense intended by Curme. It was to be roughly another twenty years after the publication of Curme's (1931) A Grammar of the English Language, however, before Zellig Harris (1952) proposed to express the equivalency relationship that two constructions had to one another by means of an operation that he called a transformation. It is in this sense that I shall be using the term transformation in relating adverbial clauses and the abridged adverbial clauses traditionally called absolutes.

3.2. The foundations of comparative syntactosemantic reconstruction. In the following I will present briefly a framework for syntactosemantic reconstruction in which it can be argued that the absolute construction found in numerous descendant languages of PIE originated in the parent language itself, and that the construction, as an abridged clause, is one which evolved from a full adverbial clause.

The first axiom of comparative reconstruction has been applied to data by historical linguists since the beginnings of the nineteenth century, but to my knowledge, the first linguist to provide a succinct formulation of this axiom in print was Joseph Greenberg, who in 1957 wrote:

(1) "Since occurrence in at least two separate branches of a family is the common reason for assigning a feature to the ancestral language of the family as a whole, a resemblance between two languages can be assigned to this early period if the two languages are classified in separate branches" (p. 49f.).

In his book Language Change and Linguistic Reconstruction, Hoenigswald (1960), in applying this axiom to phonology, reworked it in the rigorous terms of structuralism:

(2) "The comparative method is based on the principle that sets of recurring phoneme correspondences between two related languages continue blocks of positional allophones [i.e. proto-phonemes] from the mother language; therefore, if such sets are subjected to the treatment accorded to phones in synchronic phonemics, a reconstruction is obtained" (p. 132).

Hoenigswald also demonstrated that this axion could be applied to reconstruct another emic unit, the morpheme. More recently, I have claimed that it is possible to reconstruct two additional emic units, the tagmeme and the syntagmeme (cf. Costello 1983). If we generalize Hoenigswald's statements concerning the relationship between elements in the parent and descendant languages that enables one to reconstruct phonemes and morphemes, we may state that

(3) If an emic unit A of the ancestor language appears as an emic unit M in one descendant language and as an emic unit T in another descendant language, corresponding strings in the two languages will be matched in such a way that M in one answers to T in the other. Such a pair of emic units, one in the first descendant language and one in the other, is a set of correspondences, written T/M, and leads us to posit A in the ancestor language.

Figure 1 is a graphic representation of this statement; the Arabic numeral 1 refers to the contrastive set of environments, and 2 refers to the characteristic environment set. (Cf. Hoenigswald 1960:15ff., 28 and Costello 1983:1-6 for further discussion of contrastive and characteristic environment sets.)

		1 2	M	1 2	Descendant Language 1
Proto-Language	A	1 2			
		1 2	T	1 2	Descendant Language 2

Figure 1

If the statement in (3) is applied to syntactic data formulated within the theoretical framework of tagmemics, then we may say that

(4) Sets of correspondences of tagmemes and syntagmemes between two descendant languages may be considered to be continuations of respective proto-tagmemes and proto-syntagmemes in the parent language, just as sets of correspondences of phonemes and morphemes between two descendant languages may be considered to be continuations of respective proto-phonemes and proto-morphemes in the parent language.

3.3. The tagmeme. In their book Grammatical Analysis, as well as in other publications, Evelyn and Kenneth Pike (1982) make use of the four-cell tagmeme, rather than the two-cell tagmeme of earlier publica-

ations. In the four-cell tagmeme, one cell is reserved for syntactic function or slot, one cell is reserved for the manifesting or filler class, one cell is reserved for syntactosemantic role, and one cell is reserved for cohesion, or what others might call grammatical agreement. By way of illustration, consider the following sentence,

(5) The boys broke the window.

In this sentence, the cells of the initial tagmeme, "the boys", are specified as follows: the syntactic function is subject, the manifesting class is noun phrase, the syntactosemantic role is actor, and the cohesion is plurality. A linear notation that might be used to represent this tagmeme is

(6) S::Actor:NP-Plural-

(A key to the abbreviations used in the tagmemic formulae in this paper will be found in the appendix.) It is the cell for syntactosemantic role that is of primary concern in this paper.

3.4. The syntagmeme. The syntagmeme is a construction whose constituents are tagmemes. At the same time, the syntagmeme is the expansion of a filler of a higher level tagmeme--that is, syntagmemes manifest higher level tagmemes. By way of illustration, let us once again consider the sentence in (5). In this sentence, the initial syntagmeme (at the phrase level) is the noun phrase "the boys". The constituents of this noun phrase are the tagmemes formulated in (7) and (8):

(7) Det::Spec:DefArt-Plural-
(8) NH::Item:Noun-Plural-

At the same time, this syntagmeme "the boys" is the expansion of the filler NP of the higher level tagmeme found in (6). A linear representation of these facts is as follows:

(9) S::Actor:NP [+Det::Spec:DefArt +NH::Item:Noun]

(Henceforth representation of the fourth cell, cohesion, will be omitted for the sake of clarity; in any event, cohesion is not pertinent to any of the discussion.) For a more detailed discussion of syntagmemes, cf. Costello 1983:68ff.

3.5. The syntactosemantic tagmeme. It is advantageous for purposes of reconstruction to speak of two types of tagmemes, a syntactic tagmeme and a syntactosemantic tagmeme. The syntactic tagmeme is a reduced form of the four-cell tagmeme which is identical to the two-cell tagmeme of earlier tagmemic literature, a correlation of syntactic function slot and manifesting class; e.g. S:NP. The syntactosemantic tagmeme, on the other hand, is a reduced form of the four-cell tagmeme representing a correlation of syntactosemantic role and class, e.g. Actor:NP. This nomenclature and reduction is not intended in any way to introduce a departure from the four-cell tagmeme; rather it is meant merely to emphasize which of two possible distribution mode approaches may be used to indicate contrastive and characteristic environments; the environments of the syntactic tagmeme are syntactic, and the environments of the syntactosemantic tagmeme are syntactosemantic. Since the focus of this paper is syntactosemantic reconstruction, the remaining discussion will deal only with syntactosemantic tagmemes and syntagmemes.

3.6. Contrastive and characteristic environments. Tagmemes have a good deal in common with morphemes, and because of this, they may be reconstructed just as morphemes are. Content and form are united as sememe and allomorph in the morpheme; in the syntactosemantic tagmeme, syntactosemantic role, as content, is united with a manifesting filler or fillers, as form. Just as one associates contrastive and characteristic environment sets with morphemes, one may do the same with tagmemes. In the case of the morpheme, the environments are made up of strings of other morphemes. In the case of the syntactosemantic tagmeme, the environments are made up of strings of other such tagmemes, and in the case of syntactosemantic syntagmemes, the environments are made up of strings of other such syntagmemes. It is precisely because it is possible to establish contrast among tagmemes and syntagmemes, as among morphemes, that the comparative method may be applied to corresponding sets of tagmemes and syntagmemes in two descendant languages to reconstruct proto-tagmemes and proto-syntagmemes in a parent language. (Cf. Costello 1983:1-6 for a more detailed discussion of contrastive and characteristic environments.)

4. The syntactosemantic reconstruction of absolutes in Proto-Indo-European.

4.1. Data. Let us first consider the distribution of various syntactosemantic types of absolutes in some branches of Indo-European.

4.1.1. Absolutes with the syntactosemantic role of definite time are found in Indic and Hellenic (in examples (10) - (36), absolute constructions are enclosed in parentheses):

(10) Sanskrit: (varṣaśate pūrṇe) muniḥ Sagarāya varaṃ prādāt 'when the century was complete, the ascetic granted a wish to Sagara' (Gonda 1966:89)

(11) Greek: (opsias de genomenēs), hote edu ho hēlios, epheron pros auton pantas tous kakōs ekhontas kai tous daimonizomenous (Nestle and Aland 1963:86) 'And at even, when the sun did set, they brought unto him all that were diseased, and them that were possessed with devils' (Mark 1:32, Authorized King James Version)

If we represent the absolute syntagmeme in Sanskrit as M, and the absolute in Greek as T, they constitute a correspondence set, written M/T, and lead us to reconstruct an absolute of definite time, A, for PIE (cf. (3) above).

4.1.2. Absolutes with the syntactosemantic role of indefinite time are found in Hellenic and Italic:

(12) Greek: (ontos ge pseudous) estin apatē 'whenever there is falsehood, there is deceit' (Goodwin and Gulick 1930:243)

(13) Latin: (Camillo duce), milites fortiter pugnant 'whenever Camillus is the leader, the soldiers fight bravely' (Horn, Gummere, and Forbes 1963:51)

If we represent these absolute syntagmemes in Greek and Latin as M and T respectively, we may reconstruct A, an absolute of indefinite time, for PIE.

4.1.3. Absolutes with the syntactosemantic role of extent of time are found in Indic and Hellenic:

(14) Sanskrit: (iti vādina evā 'sya) dhenur āvavṛte vanāt 'while he thus spoke, the cow came from the forest (Whitney 1964:101)

(15) Greek: (ouden tōn deontōn poiountōn humōn) kakōs ta pragmata ekhei 'while you do nothing that you ought to do, affairs are in a bad state' (Goodwin and Gulick 1930:243)

If we let M and T stand for these absolute syntagmemes in Sanskrit and Greek, respectively, we may assign A, the absolute syntagmeme for extent of time, to PIE.

4.1.4. Absolutes with the syntactosemantic role condition are found in Indic and Hellenic:

(16) Sanskrit: (mūle hate) hataṃ sarvam 'if the root is killed then everything is killed' (Gonda 1966:89)

(17) Greek: (theōn didontōn) ouk an ekphugoi kaka 'if the gods should grant, he could not escape evils' (Goodwin and Gulick 1930:243)

Let us allow the absolute syntagmemes in Sanskrit and Greek to be represented by M and T, respectively. Following (3) above, we may then reconstruct A, an absolute proto-syntagmeme with the syntactosemantic role condition, for PIE.

4.1.5. Absolutes with the syntactosemantic role concession are found in Indic and Hellenic:

(18) Sanskrit: (paśyatas te) mariṣyāmi 'although you see it (i.e. before your eyes) I shall die' (Gonda 1966:88)

(19) Greek: (kai metapempomenou autou) ouk ethelō elthein 'although he keeps sending for me, I do not want to go' (Goodwin and Gulick 1930: 331)

Representing these absolute syntagmemes of Sanskrit and Greek as M and T, respectively, we may reconstruct A, an absolute syntagmeme with the role concession, for PIE.

4.1.6. Absolutes with the syntactosemantic role cause are found in Italic and Germanic:

(20) (litteris non missis) puer pecuniam non accepit 'because he did not send a letter, the boy did not receive the money' (Ullman and Henry 1937: 235)

(21) Gothic: iþ marei (winda mikilamma waiandin) urraisida was (Streitberg 1960:33) 'and the sea arose by reason of a great wind that blew' (John 6:18, Authorized King James Version)

If we let M and T stand for these absolute syntagmemes in Latin and Gothic, respectively, we then may assign A, an absolute with the syntactosemantic role cause, to PIE.

4.1.7. Absolutes with the syntactosemantic role accompaniment are found in Hellenic and Italic:

(22) Greek: anebē (oudenos kōluontos) 'he made the ascent with no one interfering' (Goodwin and Gulick 1930:331)

(23) Latin: Aeneas, (patre praesente), auxilium dei rogavit 'Aeneas, with his father present, asked for the god's help' (Horn, Gummere, and Forbes 1963:50)

If we represent these absolute syntagmemes in Greek and Latin as M and T, respectively, we may reconstruct A, an absolute of accompaniment, for PIE.

Syntactosemantically, the absolutes in the above sets of data may be represented as the syntagmemes:

(24) Definite Time
Indefinite Time
Extent of Time
Condition
Concession
Cause
Accompaniment
} :AdvPhr [±Actor:NP ±Neut:NP +Stat:Ptcp ±U:NP]

The adverbial clauses to which these absolutes are transformationally related may be represented, respectively, as the syntagmemes:

(25) Definite Time
Indefinite Time
Extent of Time
Condition
Concession
Cause
Accompaniment

:AdvCl [±Sub:AdvConj
±Actor:NP ±Neut:NP
±Stat:VP ±Ü:NP]

Since all of the descendant languages of PIE exhibit the syntagmemes in (25), we may reconstruct them as well, according to the principle stated in (3), for PIE. (Examples of these constructions are readily found in the individual grammars treating these languages, and therefore need not be presented here.)

Regarding the transformations which relate the structures in(24) to those in (25), we note that one transformation deletes the tagmeme Sub:AdvConj; a second transformation converts the tagmeme Stat:VP to Stat:Ptcp; and a third (agreement) transformation assigns to the noun phrases and participle of the abridged clause (i.e. each of the resultant adverbial phrases in (24)) the same case that is assigned to substantival adverbs which may also fill the roles enumerated in (24). As the case marking of a particular substantival adverb was altered, depending upon the particular path of syncretism that was followed in a given descendant language of PIE, so the case marking a corresponding absolute was also modified. Thus, for example, in Indic there are locative substantival adverbs, e.g. Skt. dvādaçe varṣe 'the twelfth year' (Whitney 1964:101) and locative absolutes. In Hellenic, there are genitive substantival adverbs, e.g. tou epigignomenou kheimōnos 'in the following winter' (Goodwin and Gulick 1930:240), and genitive absolutes. In Italic there are ablative substantival adverbs, e.g. Lat. hieme 'in the winter' (D'Ooge 1921:240), and ablative absolutes. In Germanic, there are dative substantival adverbs, e.g. Goth. himma daga 'on this day' (Streitberg 1960:7), and dative absolutes. Likewise, in Baltic there are dative substantival adverbs, e.g. Lith. trumpai valandẽlei 'for a short while' (Senn 1966:415), and dative absolutes, and in Slavic, there are dative substantival adverbs, e.g. OCS domovi 'homeward' (Brugmann 1911:704, 291), and dative absolutes. To be sure, in Indic, Hellenic, Italic, and Germanic, absolutes occurred also in cases other than the ones that resulted from the above-mentioned instances of syncretism; I believe, however, that the occurrence of absolutes in more than one case in

any particular descendant language of PIE was the result of one or more later developments that characterize(s) the individual history of that language; cf. Costello 1980 and 1982:239f.

Finally, since the syntagmemes in (24) are linked by the above-mentioned set of structure-relating transformations to the respective syntagmemes in (25) in all of the corresponding descendant languages, these transformations may be reconstructed for PIE also. Needless to say, additional transformations that might have been added to the transformations inherited from PIE would not be assigned to PIE. An example of this might be the transformation deleting Stat:Ptcp in Latin when the verb esse realizes this tagmeme.

4.2. If we substitute for M and/or T in any of the sections 4.1.1-7 a syntagmeme or syntagmemes from sections 4.2.1-7 below, respectively, the reconstructions achieved in sections 4.1.1-7 receive additional support.

4.2.1. The reconstruction of the absolute for definite time is strengthened if we consider additional evidence from Italic, Germanic, Baltic, and Slavic; each of these branches contains an absolute of definite time whose tagmemes correspond to those of the syntagmemes cited in 4.1.1 for Sanskrit and Greek:

(26) Latin: (navibus paratis), Aeneas ad Thraciam navigavit 'when the ships were ready, Aeneas sailed to Thrace'(Horn, Gummere and Forbes 1963:51)

(27) Gothic: jah qaþ Iesus: hwas sa tekands mis? (laugnjandam þan allaim) qaþ Paitrus... (Streitberg 1960:125) 'and Jesus said, Who touched me? When all denied, Peter...said... (Luke 8:45 Authorized King James Version)

(28) Lithuanian: (dënëlei aũsztant) (saulẽlei ùžtekant) reikẽs mán szaliñ jóti 'when day breaks, when the sun rises, I will have to ride away' (Delbrück 1897:496)

(29) Old Church Slavonic: (slověnisku jazyku živuščju na Dunaji) pridoša Bolgare 'when the Slavic nation lived on the Danube, the Bulgarians came (Delbrück 1897:497)

4.2.2. The reconstruction of the absolute for indefinite time is upheld if we supplement the data in 4.1.2 with additional evidence from Germanic:

(30) Gothic: iþ (þuk taujandan armaion) ni witi hleidumei þeina, hwa taujiþ taihswo þeina (Streitberg 1960:7) 'but when thou doest alms, let not thy left hand know what thy right hand doeth' (Matthew 6:3, Authorized King James Version) (Cf. also Costello 1980:97f.)

4.2.3. The reconstruction of the absolute for extent of time receives additional support with evidence from Italic, Germanic, and Baltic; each of these branches contains an absolute of extent of time whose tagmemes correspond to those of the syntagmemes cited in 4.1.3 for Sanskrit and Greek:

(31) Latin: (Numa rege), pestilentia erat 'when Numa was king, there was a plague (Horn, Gummere, and Forbes 1963:50)

(32) Gothic: In jera þan fimftataihundin þiudinassaus Teibairiaus kaisaris, (raginondin Puntiau Peilatau Iudaia),...warþ waurd gudis at Iohannen... (Streitberg 1960:97) 'Now in the fifteenth year of the reign of Tiberius Caesar, Pontius Pilate being governor of Judaea,...the word of God came unto John...' (Luke 3:1-2, Authorized King James Version)

(33) Lithuanian: vẽna róza tàs razbáinikas (jám bemẽgant) àtėmė jám tą žẽdą 'once while he slept, the thief took the ring off him' (Delbrück 1897:496)

4.2.4. Additional data from Italic reinforces the reconstruction of the absolute for condition; cf. 4.1.4:

(34) Latin: (oppidis nostris captis), bellum geremus 'if our towns are captured, we shall wage war' (Ullman and Henry 1937:235)

4.2.5. The reconstruction of the absolute for concession is strengthened if we consider additional evidence from Italic, which contains an absolute concession whose tagmemes correspond to those of the syntagmemes cited in 4.1.5 for Sanskrit and Greek:

(35) Latin: (oppido capto), legatus fugit 'although the town was captured, the lieutenant fled' (D'Ooge 1921:141)

4.2.6. The reconstruction of the absolute for cause receives additional support with evidence from Baltic; this branch contains an absolute cause whose tagmemes correspond to those of the syntagmemes cited in 4.1.6 for Latin and Gothic:

(36) Lithuanian: (jám ateĩnant) visì dżaũgias 'because he is coming, everyone is happy' (Delbrück: 1897:496)

5. Conclusion. To conclude, I would like to summarize the arguments that I have set forth and attempted to support in this article. I claim that the fundamental axiom of the comparative method, stated by Greenberg (1957:49f.) and observed in principle by earlier generations of historical linguists, may be extended from its application in phonemic and morphemic reconstruction to tagmemic and syntagmemic reconstruction as well. Specifically, the syntactosemantic role, and often the manifesting or filler class of proto-tagmemes and proto-syntagmemes may be retrieved by following the procedures of the comparative method. Moreover, the transformations that relate syntagmemes to one another may be reconstructed as well.

I also argue that absolute constructions are not absolute (like vocatives and interjections) at all. On the contrary, they are abridged adverbial clauses, i.e. non-finite phrases, that may be transformationally derived, diachronically and synchronically, from full adverbial clauses. Finally, on the basis of comparative syntagmemic reconstruction and data from Indic, Hellenic, Italic, Germanic, Baltic, and Slavic, I claim that at least seven syntactosemantic types of absolute constructions originated in PIE, rather than in the descendant languages of PIE: definite time, indefinite time, extent of time, condition, concession, cause, and accompaniment.

APPENDIX

Key to Abbreviations

AdvCl	Adverbial clause
AdvConj	Adverbial conjunction
AdvPhr	Adverbial phrase
DefArt	Definite article
Det	Determiner
Neut	Neutral
NH	Head of a noun phrase
NP	Noun phrase
Ptcp	Participle
S	Subject
Spec	Specifier
Stat	Statement
Sub	Subordinator
U	Undergoer
VP	Verb phrase

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SEQUENCE AND FUNCTION IN THE OLD ENGLISH NOMINAL GROUP

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Previous Systemic description of the nominal group in Old English has revealed its structure as a chain of ordered functional elements. The head element (h) may be premodified by determiner (d), epithet (e) and nominal (n) elements in that order, and postmodified by qualifier (q) elements. The determiner element is usually realized by deictic, numeral, and quantifier words, the epithet by adjectives and participles, the nominal element and the head itself by nouns and pronouns, the qualifier by clauses and rankshifted nominal groups. The determiner element may easily be subclassified into sequence-ordered d1, d2 and d3 elements, also distinguished on functional lines (Cummings 1982: 199-202).

Systemic description has until now dealt with genitive-case premodifiers only in a cursory way, however. Genitive-case nouns and pronouns were seen to realize both the d2 and the nominal elements. Only in the case of pronouns was a functional distinction between partitive and possessive found to be significant. The database associated with this description was very small: nominal groups collected from no more than four Old English homilies (Cummings 1980: 229; 1981: 350-352). A now completed computerized database representing Systemic description of all nominal groups with more than one element in the twenty-four Old English Wulfstan homilies edited by Bethurum (1957) affords a much richer description, both in terms of sequence and in terms of function. This database (described structurally in Baxter and Cummings 1983) contains Systemic tree diagrams for approximately four thousand nominal groups in approximately three thousand PROLOG-language clauses. The majority of these data clauses were written by a PROLOG-language parser (Cummings and Regina 1985).

The current database shows that genitive-case premodifiers occur initially, medially and finally in the premodifier string, and that they represent many traditionally-labelled genitive functions: genitives of possession, origin, definition and measure as well as subjective, objective and partitive genitives. In order to find a sequence and function pattern in the distribution of these genitives, it is necessary to isolate all the tree diagrams which show genitive premodifiers with at least one other premodifier. Computer analysis of the Wulfstan homily data outputs exactly forty tree diagrams fulfilling these conditions.

The forty diagrams reveal that two concepts are keys to the classification of genitive premodifiers: the specificity feature and the grouping of genitive functions into two broad types. Nominal groups in Old English are unspecific or specific in about the same sense as nominal groups in modern English are. That is, they either do not refer to a particular known to be elsewhere in the discourse or in the discourse situation, or they do (Halliday and Hasan 1976: 70-71, 155-159). Specificity may be explicitly marked by a determiner word (eg. "a"/"any"/"the"/"Michael's"). In Old English it may only be implicit in the context, or simply indeterminate.

It is a commonplace that some of the genitive functions named above are hard to distinguish. Defining and measure genitives often seem to be special cases of the partitive genitive. In a similar way, possessive, subjective and origin genitives are usually close in meaning. Objective genitives do not obviously belong in either camp, but Old English structures seem to associate them with partitive, defining and measure genitives (Quirk and Wrenn 1957: 61-62; cf. Quirk and Greenbaum 1973: 95-96).

An examination of the data subset under discussion produces the following conclusions. The genitive premodifiers do indeed group themselves into two general semantic types. The first type is the grouping of partitive, defining, measure and objective genitives. The second type is the grouping of possessive, subjective and origin genitives. Genitive premodifiers occur both in unspecific and in specific nominal groups. In either case, a separate marker of specificity, such as an unspecific determiner (*aenig, aeghwylc*, etc.) or a definite-demonstrative (*se/seo/þaet*) may also occur in the same nominal group. Or such a separate marker of specificity may not occur, in which case a genitive of the first type will probably, but not necessarily, mark the nominal group as unspecific. A genitive of the second type will typically, but not necessarily, mark such an otherwise unmarked group as specific. Genitive premodifiers which belong to the first type realize the nominal element. Genitive premodifiers which belong to the second type typically realize the d2 element, unless the sequence position of the genitive is not that of a d2, in which case it realizes the nominal element. Nominal elements occur not only after, but also before the determiner-epithet chain--and never interrupt it.

Accordingly, the typical case for a genitive premodifier realizing the nominal element is when the genitive belongs to the partitive-defining-measure-objective type. Less typically the nominal can be realized by a genitive of the possessive-subjective-origin type, which therefore does not serve to mark the group as specific. This happens only when the group is marked specific by some other means, or when the position of the genitive is clearly that of the nominal element, outside the

determiner-epithet sequence.

Thus a genitive premodifier realizes the d2 element if no other marker of specificity is present, if the genitive belongs to the possessive-subjective-origin semantic type, if in fact the nominal group is specific, and if the sequence position can be accounted for as that of a d2. Should the nominal group be already marked specific by a definite-demonstrative, the genitive cannot of itself be regarded as a marker of specificity, and will occupy a position which can only be accounted for as that of the nominal element. Should a possessive-subjective-origin genitive occur in a position unmistakably that of the nominal element, it does realize the nominal element, and does not mark the group as specific, regardless of other features in the group.

These conclusions can be demonstrated by organizing the data subset into structural and semantic types. Nominal groups with genitive premodifiers may be marked for specificity by means other than the genitive itself, or they may be thus unmarked. Regardless of the marking, they may in most cases be determined to be unspecific or specific from their context. Four useful data types can be struck on this basis:

1. unmarked, unspecific groups
2. unmarked, specific groups
3. marked, unspecific groups
4. marked, specific groups.

The four unmarked and contextually unspecific groups (groups 1-4 following) contain two examples of type-one genitives occurring after the epithet element (1-2) which confirms the coincidence of type one with one of the two nominal element positions. One group (3) shows a type-one genitive before a determiner. Conclusive evidence for the other position of the nominal element is only forthcoming from the marked, unspecific groups (below), but in the light of that further evidence, this genitive can be accounted for as a nominal element in its other position. One example (4) shows a type-two genitive after a d3 element, which allows the genitive to be accounted for as an exponent of the nominal element despite its type. These four groups substantiate the point that in an otherwise unmarked group, type-one genitives co-occur with the feature unspecific and occupy positions clearly--or at least accountable for as--outside the determiner-epithet sequence, either before it, or between it and the head element. Furthermore a type-two genitive can also co-occur with the feature unspecific, but shows the same position as the type-one genitives when it does so, not that of the d2.

1. mycel engla werod	e	n	h	6-190[1]
"a great host of	adj	noun	noun	unspecific
angels"	nom	gen	nom	part./def.

2. miclum Godes ege	e	n	h	18-41
"a great fear of	adj	noun	noun	unspecific
God"	dat	gen	dat	objective
3. Adames anum ribbe	n	d	h	6-35
"one rib of Adam"	noun	num	noun	unspecific
	gen	dat	dat	partitive
4. anum Godes dome	d	n	h	18-127
"a single judge-	num	noun	noun	unspecific
ment of God"	dat	gen	dat	subjective

The following twenty unmarked and contextually specific groups (5-24) all show type-two genitive premodifiers with two exceptions (22-23). One group (5) shows the genitive in an unmistakable d2 position: immediately preceding a d3 superlative. No other d2 exponent is present to fill up the anticipated pairing of a superlative and a d2. Four more groups (6-9) show the genitive after a d1 (eall), which is partial evidence for the d2 position. The next twelve groups (10-21) show the genitive, which is in one case (11) a rankshifted genitive group, before the determiner agen. These groups so far demonstrate the coincidence of the type-two genitives with the feature specific in otherwise unmarked nominal groups, and show that the genitive in question either clearly belongs to the d2 position or can be accounted for as belonging to that position.

5. Noes yldesta sunu	d	d	h	6-99
"Noah's eldest	noun	deic	noun	specific
son"	gen	nom	nom	origin
6. eallum Godes bydelum	d	d	h	1b-25
"all God's prea-	quant	noun	noun	specific
chers"	dat	gen	dat	poss./orig.
7. ...7 eall witegena sacu	d	d	h	10a-10
"...and all the conten-	quant	noun	noun	specific
tion of the prophets"	nom	gen	nom	subjective
8. ealne modes hiht	d	d	h	10c-181
"all the joy of	quant	noun	noun	specific
the heart"	acc	gen	acc	subj./orig.
9. ealle Godes cyrican	d	d	h	18-70
"all God's chur-	quant	noun	noun	specific
ches"	acc	gen	acc	possessive
10. Godes agen bearn	d	d	h	5-76
"God's own child"	noun	adj	noun	specific
	gen	nom	nom	origin

11.	ures Drihtnes agene leorning-cnihtas "Our Lord's own disciples"	d (d deic gen, h noun gen)	d adj nom	h noun nom	7-19 specific posses-sive
12.	Cristes agene bearn "Christ's own children"	d noun gen	d adj nom	h noun nom	8c-112 specific origin
13-19.	Godes agenre gyfe "God's own gift"	d noun gen	d adj dat	h noun dat	9-69,78,82, 86,91,95,101 specific orig./poss.
20.	Cristes agenum naman "Christ's own name"	d noun gen	d adj dat	h noun dat	10c-5 specific possessive
21.	Godes agenum dihte "God's own command"	d noun gen	d adj dat	h noun dat	17-22 specific subj./orig.
22.	...7 eal Israhela cyn "...and the whole race of the Israelites"	d quant nom	n noun gen	h noun nom	11-204 specific defining
23.	ealne geares faec "the whole space of a year"	d quant acc	n noun gen	h noun acc	14-7 specific def./meas.
24.	fulne...folces gaelsan "the vile luxury of the nation"	e adj acc	n noun gen	h noun acc	20-193[2] specific possessive

The last three groups in this collection (22-24) are exceptional. Two (22-23) show type-one genitives in unmarked, specific groups. Their sequence positions are indeterminate, being either that of the d2 or of the nominal element. They are labelled "nominal" on the basis of the connection between the semantic type of the genitive and the element type. The last group (24) is a complete anomaly. It shows a type-one genitive in a specific nominal group occurring between the epithet and head elements. The actual text, however, shows the group interrupted by another clause element (. . . fulne eac folces gaelsan . . .), which may indicate a deliberate change of structure between the beginning and the end of the group, as in (" . . . a vile--indeed the nation's--luxury . . . ").

The two divisions of nominal groups unmarked for specificity taken together lead to the following conclusions. Type-two genitives, possessive-subjective-origin, occur mainly in contextually specific nominal groups, where, taken as a whole, they can be accounted for positionally only as d2 elements. When they occur in contextually unspecific nominal groups, they cannot be accounted for positionally as d2 elements, but instead occupy the positions of type-one genitives in unspecific groups. Type-two genitives may therefore be taken as another marker of specificity in an otherwise unmarked nominal group as long as they can be accounted for as d2 elements. One group (24) offers a partial exception to this observation.

Furthermore, type-one genitives, partitive-measure-defining-objective, occur mainly in contextually unspecific nominal groups. Regardless of the specificity of the group in which they occur, their occurrences taken as a whole show distribution outside of the determiner-epithet sequence. These two characteristics define the nominal element, but leave the type-one genitive as a relatively inconclusive marker of specificity.

Five nominal groups (25-29) belong to the marked, unspecific data type. The marking is represented by determiner exponents (aeghwylc, aenig, nan) which exclude the feature specific from the group. The genitive premodifier in each of these groups is partitive, ie., type one. In each case the genitive is first in the group, before the determiner. These groups confirm the coincidence of type-one genitives with the feature unspecific, and demonstrate that type-one genitives frequently occur before a determiner. This defines the second position of the nominal element whose typical exponent is the type-one genitive. It is by reference to these groups with their first-occurring nominal elements that the structure of Adames anum ribbe (3) can be explained.

25.	his...aeghwylc stan "each stone of it"	n prn gen	d quant nom	h noun nom	2-32 unspecific partitive
26- 27.	his aenig ende "any end of it"	n prn gen	d quant nom	h noun nom	7-128, 13-91 unspecific partitive
28.	ðaes aenig ende "any end of that"	n deic gen	d quant nom	h noun nom	7a-37 unspecific partitive
29.	Godes craefta nan ðing "nothing of God's virtues"	n d h noun noun gen gen	d quant acc	h noun acc	11-145 unspecific partitive

A total of nine nominal groups (30-38) are marked and specific. The marking always occurs at d2 element, realized by a demonstrative (se/seo/þaet, þes/þeos/þis) or by a possessive deictic (eg., ure). The genitive premodifiers are of both semantic types. The first three of these groups (30-32) unmistakably show the genitive in the nominal element position, between the epithet element and the head. Another two groups (33-34) show it between the two determiners and the head. Three more groups (35-37) show the genitive between a single determiner premodifier and the head element. Taken as a whole, all of these groups show the genitive premodifier, of either semantic type, occupying the position of the nominal element, immediately before the head, and after any other elements in the group. The last group (38) shows the genitive occurring first in the premodifier string, before the d2 element, which is also a position of the nominal element.

30. Ðam Seofanfealdan Godes Gyfan "the sevenfold gifts of God"	d deic dat	e adj dat	n noun gen	h noun dat		9-19 specific orig./poss.
31. widerraede...þyssum godum Godes gyfum "opposed...to these good gifts of God"	h adj nom	q d deic dat	e adj dat	n noun gen	h noun dat	9-58 spe- cific orig./ poss.
32. þam anfealdan Godes ege þe... "the modest fear of God which..."	d deic dat	e adj dat	n noun gen	h noun dat	q clause 0	9-101 specific objective
33. ðam sylfum Abrahames cynne "that same race of Abraham"	d deic dat	d deic dat	n noun gen	h noun dat		6-105 specific origin
34. ðyson eahta deofles craeftan "these eight snares of the devil"	d deic dat	d num dat	n noun gen	h noun dat		10c-65 specific subj./orig.
35. þaet Dauides cynn "the race of David"	d deic nom	n noun gen	h noun nom			6-109 specific origin
36. þa halgunge þenunge "the rite of consecrating"	d deic acc	n noun gen	h noun acc			8b-44 specific defining

37. þa Godes word	d	n	h	q	19-82
þe...	deic	noun	noun	clause	specific
"the words	nom	gen	nom	0	origin
of God					
which..."					

38. aelces þinges		n	d	h	14-12
ure teodunge	d	h			specific
"our tithing	quant	noun	deic	noun	part./obj.
of each	gen	gen	acc	acc	
thing"					

It seems reasonable to infer that when a d2 in the form of a non-genitive is already present, already marking the group as specific, the genitive premodifier cannot be a d2 element, and cannot itself be considered a marker of specificity. Instead it orders itself as a nominal element, regardless of its semantic type. In this it is consistent with the principle that type-one genitives always realize nominal elements, that type-two genitives realize nominal elements when distributed into nominal element positions, and that genitives realizing nominal elements do not mark their groups as specific. Simply put, when the group is marked specific by a deictic, even a type-two genitive loses its specifying character, and assumes both the function and the position of a nominal element.

The contextual specificity of the two following unmarked nominal groups (39-40) is indeterminate. However the position and the semantic function of the genitive in the first one makes it match with groups 1-2, which are unmarked, unspecific groups. It is therefore probably unspecific. The position and the semantic function of the genitive in the second group causes it to match with groups 10-21, which are unmarked and specific. It is therefore probably specific.

39. dimme 7 deopne		e	n	h	11-179
hellewites grund	a	+ a			indeterminate
"a dark and deep	adj	adj	noun	noun	def./part.
pit of hell-	acc	acc	gen	acc	
torment"					

40. Godes agen bebod	d	d	h	8b-75
"God's own	noun	adj	noun	indeterminate
commandment"	gen	nom	nom	subj./orig.

A final comparison between the functions of the d2 and nominal elements is now in order. The d2 element is among other things a specifier, marking the referent of the group as a particular person or thing within the horizons of the discourse. The referent has already occurred in the discourse, or it will occur, or it belongs as an already recognized particular to the world of that discourse. When a genitive realizes the d2 element,

it has exactly this function. A genitive on the other hand need not be a specifier, such as when another potential specifier is also present, when a determiner marking the group as unspecific is present, or when the genitive just belongs to the semantic type which does not specify, the partitive-measure-defining-objective type. This "neutral" genitive does not make the group specific, but may occur in groups which are specific for some other reason. Neither does it necessarily make a group unspecific, even though there seems to be a high correlation between it and unspecific groups. Like the specifying genitives at the d2 position, it has a distinctive sequential distribution. This distinctive distribution, to either side of the determiner-epithet sequence, coupled with its functional distinctness, makes for a distinct premodifier, the nominal element.[3]

FOOTNOTES

1. The examples (1-40) have three parts. The first part is text and translation. The second part is the appropriate section of the tree diagram, with labels for elements, word classes and cases. The third part gives homily and line numbers, specificity and functions of the genitive.

2. The line number refers to Whitelock (1976).

3. Since the meaning of the nominal element has thus become much more precisely defined, a number of genitives previously said to realize the nominal element (Cummings 1980-1982) will now be seen to realize the d2 element.

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Oh gracyous god my harte it burstes -

ON THE HISTORICAL DEVELOPMENT OF UNMARKED AND MARKED TOPICS IN ENGLISH

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1. INTRODUCTION.

The two sentence elements that I will discuss in this paper, they have suffered rather different fates over the centuries.

That, of course, is not a proper opening sentence in a serious academic paper in contemporary English. Yet the kind of sentence organization that we find exemplified there - what I will call an unmarked topic construction; others have described it in terms of pleonastic pronouns (e.g. Tyson 1976) or left dislocation (e.g. Montgomery 1983) - has been part and parcel of the English language at least since the days of King Alfred. It is still to be found in many varieties of English, although not in written standard English. In this paper I will give some glimpses of its use in Old and Middle English as well as in Early Modern English; I will also show when and why it fell from favor in the standard language.

As regards the marked topic, it is much easier to slip in unobtrusively in an academic paper. The previous sentence is an example of this. Yet for what seems to have been quite a long period this construction was apparently confined to spoken English, before it eventually made its way into the written language through a beachhead in informal letter-writing in late Middle English.

In this paper I will have to confine myself to a discussion of diachronic changes in the stylistic value of unmarked and marked topics and leave aside other important aspects of their use, such as their discourse function, as well as the question of the origin of the marked topic. Still, since some of the terms I employ have been used in many different ways by different linguists (see for example Enkvist 1981), I will begin by giving a thumb-nail sketch of the descriptive framework within which my unmarked and marked topics should be viewed.

2. DESCRIPTIVE FRAMEWORK.

In order to account for certain types of what may loosely be referred to as word-order phenomena, I have developed a model which describes the linear organization, or LINEARIZATION, of English macro-syntagms in terms of the following major linearization elements: topic/comment, frame/insert, and theme/rheme.

The MACRO-SYNTAGM (M-S), the largest construction taken into account here, consists of a main clause with its subordinate

clause(s) (if any). These are regarded as constituents within the main clause.

The TOPIC (To) is an initial noun phrase which cannot be analyzed as having been fronted from a more neutral position later in the M-S or, to put it differently, which cannot be assigned any syntactic constituent status within the M-S (1). In a MARKED TOPIC (To*) the noun phrase is preceded by a preposition such as *as for*, *as to*, *as regards*, etc., which marks its status as topic (2). The remainder of the M-S, the COMMENT, would still be syntactically complete if the topic were removed from the M-S.

The FRAME (Fr) is an initial adverbial which, unlike the topic, is movable: it can be analyzed as having been fronted from a position later in the M-S, to which it can be returned. The remainder of the M-S, the INSERT (In), would still be syntactically complete if the adverbial were removed (3). Note that an initial prepositional phrase with *as to*, *as regards*, etc., constitutes a frame, and not a marked topic, if it can be moved, as illustrated in (3b-c).

The THEME (Th) is any initial constituent without which the remainder of the M-S, the RHEME (Rh), would NOT be syntactically complete. In declarative M-S's the subject constitutes an unmarked theme (4); any other constituent in theme position is regarded as a MARKED THEME (Th*), as shown in (5). Note that certain initial adverbials function as marked themes, and not as frames (5c).

By INITIAL POSITION is here meant not only the initial position in a M-S, but also the initial position in a comment or an insert. Thus a theme (marked or unmarked), a frame, or an unmarked topic, can appear in initial position in a M-S, in a comment, or in an insert. Marked topics differ from the other initial elements in that they do not seem to admit of initial position in a comment.

Furthermore, in order to determine which constituent appears in initial position, we have to disregard various INTRUSIVE ELEMENTS, such as VOCATIVES (Vo), INTERJECTIONS (Ij), and CONJUNCTIONS (Cj) (6) and INTRUSIVE MACRO-SYNTAGMS (52).

As a LINEARIZATION PATTERN (LP) we recognize the sequence of initial elements within a M-S. For example, the LP To*/Fr/Th represents a M-S with an initial marked topic, with a frame in initial position in the comment, and an unmarked theme in initial position in the insert.

The different LP types attested so far are illustrated in (7)-(20). Some of the types are, not surprisingly, rare; for example, only one example of the type To/To/Th has been found (19).

3. UNMARKED TOPICS.

The unmarked topic construction does not enjoy a high status in modern English. According to Quirk et al. (1972:633) it is considered 'by some' to be substandard. Others have been more severe in their condemnation: Jespersen (as quoted in Cotton 1978:490) regarded it as showing 'imperfect mastery' and a 'total disregard of grammar'. Mitchell and Robinson (1982:63) seem to regard the

unmarked topic construction as an example of anacoluthon, referring to it as 'the device of pausing in mid-sentence and starting afresh with a pronoun or some group of words which sums up what has gone before.' Their discussion implies that Anglo-Saxon writers, among them King Alfred, found it difficult to control their sentences without pausing for thought after a complex noun phrase and then starting afresh with an anaphoric pronoun.

When Mitchell and Robinson sneer at King Alfred's inability to control his sentences, they actually sneer at English writers in general from King Alfred and Ælfric (whom W.P. Ker has characterized as 'the great master of prose in all its forms' (Malone and Baugh 1967:101) over Chaucer and Shakespeare to Dryden, who all used unmarked topics, as illustrated in (21)-(37). The list could easily be made many times longer, but these examples will suffice to indicate the different kinds of context in which the unmarked topic could occur.

From a stylistic point of view, the unmarked topic construction appears to have been very versatile: in Old English Ælfric used it in his renderings of Christ's speech (22a) as well as in his own exegetical passages (22b). In Middle English we can find it used by the voice of the Lord speaking from Heaven in *Seinte Katerine* (24) as well as by a devil in *Seinte Marherete* (25). In Elizabethan drama it could be employed in tragedies such as *The Spanish Tragedy* and *Othello* (32)-(33) as well as among the many vulgarisms in *Gammer Gurtons Nedle* (31). It can be found in a textbook on epistolary style (35) and in Dryden's *Essay of Dramatick Poesie* (37). The 'diligent' translators of the Bible in 1611 used it frequently: I have counted 116 examples, most of them in the Old Testament, and there may be a few more that I have overlooked (36).

From Old English onwards, the unmarked topic was apparently used in two different functions:

i) as a foregrounding device to draw the hearer's/reader's attention to the information presented in the unmarked topic, and

ii) as an aid to the hearer/reader in decoding the sentence: if the noun phrase that is realized as unmarked topic is long and syntactically complex - especially if long postmodifiers follow the head - then the 'pleonastic' pronoun in the comment makes it much easier for the hearer/reader to relate the topic noun phrase to the structure of the comment. In this way the unmarked topic construction increases the EFFICIENCY of the text (cf. de Beaugrande and Dressler 1981:11).

Both these functions are illustrated in (23a), which has the LP To/To/Th: the first unmarked topic, *þæt festen*, is used by the preacher to place the concept of fasting in the foreground, whereas in the second one, *þe þe hit rihtlice bigæð*, the relative construction is realized as an unmarked topic in order to show more clearly what is the subject of *biþ to Gode iþéod*. It is instructive to compare the original version with Belfour's modern English translation (23b): here the foregrounding effect of the first unmarked topic in the original has been achieved through the use of a marked topic, whereas the second unmarked topic has been converted into an unmarked theme.

In order to explain the subsequent decline and fall of the unmarked topic construction - despite its usefulness - we have to turn to the evidence of contemporary grammarians. Ben Jonson mentions in his *English Grammar* from 1640 that the construction 'is much used' (Jonson 1972:72), citing examples from Chaucer and Gower. John Kirkby could still use the unmarked topic in his *A New English Grammar* from 1746 to illustrate concord rules:

> When a Verb, explicit Person or implicit Reciprocal belong to two or more singular explicits, they must be put in the Plural; as *Mercy and Truth, they Preserve the King. John, Daniel, and George*, they *have it among them.* (Kirkby 1971:116)

During the eighteenth century, however, the unmarked topic construction came under attack from several grammarians who branded it as improper or incorrect. The earliest grammar to condemn the construction that I have found is Daniel Duncan's *A New English Grammar* from 1731 (i.e. fifteen years before Kirkby's work with the same title):

> The Pronoun of the third Person is left out, when the Substantive it stands for is express'd. Ex. *Alexander, after the Conquest of the Indies, came to Babylon.* Here *he came* would be a Barbarism. (Duncan 1967:55)

James Gough's *A Practical Grammar of the English Tongue* from 1754 includes an example of an unmarked topic construction in chapter V, 'A Collection of Solecisms or false Syntax' (Gough 1967:112); in the third edition from 1764 'false Syntax' has been replaced by 'IMPROPRIETIES':

> Additional REMARKS pointing out such GRAMMATICAL DISTINCTIONS as are apt to be overlooked, Some of them even *sometimes* by Good Writers, and *very frequently* by *Others*; with EXAMPLES of the IMPROPRIETIES or SOLECISMS resulting from Inattention thereto.
>
> ...
>
> IX.
>
> Compound Sentences having a faulty Connection, or some Superfluity.
>
> ... The Things which I received for my Cousin I gave him them. (Gough 1764:160, 162)

William Ward, in his *An Essay on Grammar* from 1765, is less categorical and shows himself to be aware of the current change in usage:

> *Of* PLEONASM.
>
> The construction which falls under this figure seldom occurs in English, and when it does occur, is usually considered as a fault. Thus, *God HE knows.*

> *Now will I write letters to Angelo,*
> *The provost HE shall bear them;*
> and other expressions of like construction in Shakespeare, are not now in use; ... (Ward 1967:525)

John Burn, in his *A Practical Grammar of the English Language*, corrects the unmarked topic construction from Samuel Butler cited here as (38) (1766:137); the example is retained in the fourth edition (1786:173-74).

Most influential in the expulsion of the unmarked topic from the standard language was presumably Lindley Murray's *English Grammar*, first published in 1795 and subsequently reprinted in innumerable editions, both in Britain and the United States, throughout the nineteenth century (cf. Alston 1965:92-96). Murray's comments on unmarked topics remained unchanged from the first edition at least to the twenty-sixth edition from 1815 (I have not been able to check later editions):

> Personal pronouns being used to supply the place of the noun, are not employed in the same part of a sentence with [as 1816] the noun which they represent; for it would be improper to say, "The king *he* is just;" "I saw *her* the queen;" "The men *they* were there;" "Many words *they* darken speech;" "My banks *they* are furnished with bees." These personals are superfluous, as there is not the least occasion for a substitute in the same part where the principal word is present.
> (Murray 1795:96; 1815:149)

It deserves to be pointed out, however, that Murray appears to have been prepared to accept the unmarked topic construction as a foregrounding device in questions:[1]

> A *third* rule for promoting the strength of a sentence, is, *to dispose of the capital word, or words, in that place of the sentence, where they will make the fullest impression.*
> That such capital words there are in every sentence, on which the meaning principally rests, every one must see; and that these words should possess a conspicuous and distinguished place, is equally plain. For the most part, with us, the important words are placed in the beginning of the sentence. So in the following passages. "Silver and gold have I none; but such as I have, give I unto thee," etc. "Your fathers, where are they? and the prophets, do they live for ever?"
> (Murray 1795:205; 1815:303-04 with minor alterations)

It seems reasonable to conclude that the disappearance of the unmarked topic from written standard English is an example of a change from above brought about by the work of prescriptive

eighteenth-century grammarians. When the unmarked topic appears in later fiction, it is normally used as a linguistic stereotype to indicate an uneducated lower-class speaker, or else a foreigner, as in (39)-(43). Only occasionally will unmarked topics be found in the speech of characters higher up the social scale: one example of this is John Galsworthy's *The Forsyte Saga*, in which several members of the Forsyte family, in particular James Forsyte, use unmarked topics (44).

To be effective, such a stereotype must obviously be based on facts. It is certainly the case that non-native speakers of English use unmarked topics. Over the last couple of years I have observed a large number of students at the English Department, Stockholm University, from this point of view. Students with about a dozen different native languages between them all used unmarked topics in oral exams ('Fillmore, he describes this as ...').

Among native speakers of English, we find unmarked topics used by British dialect speakers (45). A number of reports on their use in different varieties of spoken American English have appeared in recent years, such as Tyson 1976 (Black English), Cotton 1978 (children's speech), and Montgomery 1983 (East Tennessee). As a separate variety we might perhaps mention popular song lyrics, in which the unmarked topic apparently is not uncommon (46).

It is obvious, then, that the unmarked topic is still alive, although it occurs in a more restricted set of contexts than we could observe in the period before the mid-eighteenth century, and also in a more restricted set of contexts than the marked topic in modern English. However, the marked topic apparently led more or less the same kind of existence at one time, as I hope to show below.

4. MARKED TOPICS.

The marked topic construction seems to have risen from a humble origin. It does not appear to have been favored by king and abbot in Anglo-Saxon England (if it existed at all at that time) as the unmarked topic was: the earliest examples that I have been able to discover are as late as from the beginning of the thirteenth century. After that brief and tantalizing glimpse the construction vanishes from sight for another century and a half, and reappears only towards the end of the fourteenth century in the works of Chaucer and Gower. What little evidence there is strongly suggests that during the greater part of the Middle English period the marked topic was confined to spoken English - and written representations of spoken English - in much the same way as the unmarked topic is today.

The earliest recorded examples of marked topics are to be found in two texts from the West Midlands, namely *Ancrene Wisse/Riwle*[2] and *Hali Meiðhad*. Although I admit that nothing can be proved, my hypothesis that the marked topic at that time was seen as a colloquial expression is nevertheless supported by the fact that the examples occur in representations of direct speech. And

not only that: they occur in the speech of two characters whom the authors no doubt would wish to present in as unfavorable a light as possible, namely the worst kind of backbiter in *Ancrene Wisse* (47) and the woman in *Hali Meiðhad* (48) who presumes to argue against the state of 'holy maidenhood' (which is championed by the author) and in favor of the married state (the horrors of which are painted in strong and vivid colors by the author). It would certainly not be out of place if the authors provided such characters with low and vulgar expressions in their speech.

If my hypothesis as to the status of the marked topic construction in Middle English is correct, then this would help to explain why I have found no more examples of the construction before the end of the fourteenth century.[3] This non-appearance would, at least in part, be due to the scarcity of natural dialog in English texts from the thirteenth and early fourteenth centuries.

In Chaucer's works the marked topic is still treated as belonging to the spoken, rather than the written, language: those examples that I have found occur nearly all in dialog. Most often they are found in discussions, where they are used to structure an argument or to recall some point in a previous speaker's argument in order to make some comment on it, as in (49). The only example I have found outside dialog occurs in Chaucer's description of the cook in the prologue to the *Canterbury Tales* (50), where he uses it in order to bring the description back to the subject of the cook's professional competence after the brief digression on his physical affliction. The prologue, however, is in several places addressed directly to the reader and presented as if it were spoken: 'But first I pray yow, of your curteysie,/ That ye n'arette it nat my vilainye,/ Thogh that I pleynly *speke* in this matere,/ To *telle* yow hir wordes and hir chere;/ Ne thogh I *speke* hir wordes properly.' (*Prologue*, ll. 725-29; Skeat 1949:428, my italics). If my hypothesis is correct, the use of the marked topic would heighten the impression that the author is speaking directly to his audience.

In Gower's *Confessio Amantis* the few marked topics that occur do so in the dialogs between the lover and his confessor (as opposed to the stories told by the confessor); occasionally we may even find unmarked and marked topics in adjacent macrosyntagms (51).

The marked topic was used in letter writing at least from the beginning of the fifteenth century; the earliest examples that I have found appear in a few letters from Elizabeth, Lady Zouche, written in 1402 (20a). The great letter collections of the fifteenth century - the Stonor Letters, the Paston Letters, the Cely Letters, and the Plumpton Correspondence - provide a wealth of data for the study of marked topics. It is striking that marked topics are used only in the personal letters in these collections; they are conspicuously absent from official letters to and from the King, the Archbishop of Canterbury and other authorities, as well as from formal documents such as wills, proclamations, indentures, contracts, etc. Thus it seems clear that the marked topic still belonged to an informal style level.

I would like to dwell briefly on one of these fifteenth-century letter writers, since his use of the marked topic is directly relevant to my hypothesis. This is Friar John Brackley, who contributes fourteen letters to the Paston Letters (Davis 1976), six in English and eight in Latin. Brackley's letters are clear, well-organized compositions, evidently produced by a man who wrote with ease in English as well as in Latin. In his five letters in English to John Paston I from 1456-60 he never used any marked topics; however, in a letter to William Paston I from 1460 there are two occurrences of marked topics. What makes these examples so intriguing is the context in which they appear: in this letter Brackley gives a detailed report of an animated discussion between himself and Sir William Yelverton, and both the marked topics occur in direct speech. Thus the skilled writer, who is not known to have used marked topics in his written language, did not hesitate to employ them in an oral discussion to structure his argument and relate it to what Yelverton said (52).

By the beginning of the sixteenth century, the marked topic was sufficiently well established in the written language to be used by Sir Thomas More in his *Apology* from 1533 (53). It was also used in Bible translations such as the Coverdale Bible from 1535 (54). Since that time very little has happened to the marked topic; nobody, as far as I know, has claimed that it is improper or incorrect. It is true that John Collyer, in his *The General Principles of Grammar* from 1735 listed marked topics among 'Redundant Words', but he pointed out that they are 'added to give a greater force or emphasis to what is said ...: *As for me*, I shall behold thy Face in Righteousness: *As for you*, your Carcasses shall fall, *&c.*' (Collyer 1968:111).

5. CONCLUSION.

I hope I have been able to substantiate the claim I made in my initial sentence, namely that the marked and the unmarked topic have suffered different fates over the centuries. The marked topic apparently became generally acceptable in written English only towards the end of the Middle English period, whereas the unmarked topic was relegated to spoken English through the zeal of prescriptive grammarians in the eighteenth century. Since the rise of the marked topic preceded the decline and fall of the unmarked topic by a few centuries, we can recognize what we might call a 'mixed topic period' in the history of the English language, roughly between the years 1400 and 1750. It is in texts from that period that we can expect to find the greatest variation in LP's, even such a complex variant as To*/To/Th, which is illustrated in (20).

NOTES.

[1]In some varieties of written English, such as headlines and work titles, the unmarked topic is still used in questions. Cf. Karen Malcolm's paper 'The Paragraph: What is it?' from the Ninth LACUS Forum 1982.

[2]To be precise, the marked topic in *Ancrene Wisse/Riwle* appears in three MSS., viz. MS. Corpus Christi College Cambridge 402 (ed. Tolkien 1962), Cotton MS. Titus D.xviii (ed. Mack 1963), and Cotton MS. Cleopatra C.vi. (ed. Dobson 1972). In the other MSS. the passage has been altered in such ways that the To* has been lost.

[3]The following works I have read in vain in my search for marked topics: *Twelfth-Century Homilies* (Belfour 1909), *Seinte Marherete* (Mack 1934), *Seinte Katerine* (d'Ardenne and Dobson 1981), *Sawles Warde* (Wilson 1938), Dan Michel's *Ayenbite of Inwit* (Morris 1866), Richard Rolle's English Prose Treatises (Perry 1921), *A talkyng of þe loue of God* (Westra 1950), Lavynham's *A Litil Tretys* (van Zutphen 1956), *The Lanterne of Liȝt* (Swinburn 1917). Any information as to earlier texts with marked topic constructions than those mentioned in the paper would be greatly appreciated.

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Abbreviations used:

BUC = Brown University Corpus of American English.

EETS = Early English Text Society.

EL = English Linguistics 1500-1800. Ed. by R.C. Alston.

LOB = Lancaster-Oslo/Bergen Corpus of British English.

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(1) Ephraim, / he hath mixed himself among the people.
To Co (Authorized Version (AV) Hos 7.8)

(2) As for me and my house, / we will serve the LORD.
To* Co (AV Josh 24.15)

(3) a. Before she left / she gave me her new address.
Fr In
b. ...with regard to / I observe we never these children, / disagree.
Fr In (*Emma*, 1816; Austen 1966:121)
c. I observe we never disagree with regard to these children.

(4) The sun / was setting.
Th Rh

(5) a. A little curiosity / Emma had. (Austen 1966:406)
Th* Rh
b. Wish it / she must. (Austen 1966:405)
Th* Rh
c. Within view of the avenue / are some of the most famous
Th* Rh+ buildings in the United States.

(6) a. Sir, / I / love the acquaintance of young people.
Vo Th Rh (*Life of Johnson*; Boswell 1967:276)
b. Holy mackerel, / he / should see the gypsies at Jerez.
Ij Th Rh (BUC P19 1190)
c. And / as to strong drink, / well / it didn't appeal to
Cj To* Ij Co me. (LOB L15 15)

(7) The LORD / reigneth. (Th; AV Ps 99.1)

(8) These words / the LORD spake unto all your assembly. (Th*; AV Deut 5.22)

(9) For / of old time / I / have broken thy yoke. (Fr/Th; AV Jer 2.20)

(10) a. When ye had the carcas eaten, / the feathers / ye out flung. (Fr/Th*; *Gammer Gurtons Nedle*, 1575; Brett-Smith 1939:26)
b. If he will consent to bear you, / bear you / he does. (Fr/Th*; *The Lord of the Rings* (LR), Tolkien 1968:793)

(11) The LORD of Hosts, / he / is the King of Glory. (To/Th; AV Ps 24.10)

(12) a. And / Doll your maid / the legs / she hid a foote depe in the dunge. (To/Th*; Brett-Smith 1939:26)
b. And / their children, whom he raised up in their stead, / them / Joshua circumcised. (To/Th*; AV Josh 5.7)

(13) As for Solomon, / he / knew that she was the mother ... (To*/Th; LOB D07 178)

(14) a. As for the earth, / out of it / cometh bread. (To*/Th*; AV Job 28.5)
b. As for me, / the Lord Aragorn / I hold to be my liege-lord. (To*/Th*; LR 915)

(15) a. And / the fell riders, / less than a year ago / they / won back the crossings. (To/Fr/Th; LR 795)
b. And / my husband, / when we got married, / he / adopted our children to his own. (To/Fr/Th; Tyson 1976:55)

(16) a. But / as for me, / when they were sick, / my clothing / was sackcloth; ... (To*/Fr/Th; AV Ps 35.13)
b. And / as for his pipe, / if he wanted to smoke one, / nobody / would stop him. (To*/Fr/Th; BUC P01 1360)

(17) a. One whyle / his tonge / it / ran and paltered of a Cat. (Fr/To/Th; Brett-Smith 1939:28)
b. When he was taken, / all the rest / they / fled. (Kyd, *The Spanish Tragedy*; Mulryne 1970:12)
c. At the end of the tour, / Mr. Mosgorovsky, / he / stays behind the rest. (Fr/To/Th; Christie 1980a:84)

(18) But / certes / as touchende of me / That / fell me nevere yit er this. (Fr/To*/Th; Gower, *Confessio Amantis* iv.3280-81; Macaulay 1900:389)

(19) Þæt festen, / þe þe hit rihtlice bigæð, / he / biþ to Gode iþéod, ... (To/To/Th; *Twelfth Century Homilies*; Belfour 1909:44)

(20) a. And / as towchyng Bamptoun the taylour / wat hende that ȝe Make with hym in any degre / I / a-sente fullych þer to. (To*/To/Th; Letter from Elizabeth, Lady Zouche, 1402; Rickert 1932:261)
b. But / as for you, / your carcases, / they / shall fall in this wilderness. (To*/To/Th; AV Num 14.32)

(21) Ūre ieldran, ōā ōe ōās stōwa ār hīoldon, hīe lufodon wīsdōm, ... (King Alfred's letter to Wærferð, c. 890; Whitelock 1975:6)

(22) a. Iohannes se godspellere, þe ðis godspell awrát
sæde þæt se Hælend her on þisum life
on sumne sæl spræce to his apostolum ðus:
Se ðe me soðlice lufað, he hylt mine spræce,
and min Fæder hine lufað, and wyt becumað to him,
and mid him wuniað witodlice begen.
Se þe me ne lufað, ne hylt he mine spræce.
And seo spræc þe ge gehyrdon, nis heo na min spræc,
ac þæs ylcan Fæder þe me asende.
Se halga Froforgást þe min Fæder asent
on minum naman eow, he eow tæcð ealle þing,
and eow ealle þing geswutelað, swa hwæt swa ic eow secge.
(To/Th; To/Th*; To/Th*; To/Th; Ælfric, *DOMINICA PENTECOSTEN*, ll. 1-13, c. 1000; Pope 1967:396)
b. Se behydda wisdóm and se bedigloda goldhórd,
hwilc fremu is ænigu[m] on aórum þæra?
(To/Th; Ælfric, *DOMINICA POST ASCENSIONEM DOMINI*, ll. 44-45; Pope 1967:380)

(23) a. Þæt festen, þe be hit rihtlice bigæð, he biþ to Gode iþéod, ... (To/To/Th; *Twelfth-Century Homilies*, Belfour 1909:44)
b. As to fasting, he who keeps it rightly is united to God. (Belfour 1909:45)

(24) alle þeo þe munneð þe ant ti passiun, hu þu deað drohe, wið inwarde heorte, in eauer euch time þet heo to þe cleopien wið luue ant riht bileaue, ich bihate ham hihentliche help of heoueriche. (To/Fr/Th; *Seinte Katerine*, MS. Bodley 34, c. 1200; d'Ardenne and Dobson 1981:126, 128)

(25) Sathanas þe unseli Þ for his prude: of parais lihte so lahe, he is keiser ant king icrunet of us alle (To/Th; *Seinte Marherete*, c. 1200; Cockayne 1862:16)

(26) Forr wha-se mōt to læwedd follc
Larspell off goddspell tellenn
He mōt wel eken manig word
Amang goddspelles wordess.
(To/Th; *Orrmulum*, c. 1200; Mossé 1968:64)

(27) What man berfore so sowith be seed of dissencyon he is þe fendis child dowtlees. (To/Th; Lavynham, *A Litil Tretye*, late 14th century; van Zutphen 1956:15)

(28) Ye seye right sooth; this monk, he clappeth loude. (To/Th; Chaucer, *The Prol. to the Nun's Priest's Tale*, c. 1390; Skeat 1949:542)

(29) Those artyclys þat fayle, the tenauntys of Caster shall enqwer theym *and* send theym to me hastyly. (John Paston III to John Paston II, 1472; Davis 1971:576)

(30) Such as among them were convict of great and heinous trespasses, them they condemned into stone quarries, ... (To/Th*; Sir Thomas More, *Utopia*, transl. by Ralph Robinson, 1556; Cotterill 1967:34)

(31) *Diccon* The Cocke was rosted in your house, to breafast yesterday,
And when ye had the carcas eaten, the fethers ye out flunge
And Doll your maid the legs she hid a foote depe in the dunge.
Chat ¶Oh gracyous god my harte it burstes.
(To/Th*; To/Th; *Gammer Gurtons Nedle*, 1575; Brett-Smith 1939:26)

(32) When he was taken, all the rest they fled. (Er/To/Th; Kyd, *The Spanish Tragedy*; Mulryne 1970:12)

(33) a. Now will I write letters to Angelo -
The Provost, he shall bear them - (To/Th; Shakespeare, *Measure for Measure* IV.iii.89-90; Alexander 1970:106)
b. But yesternight, my lord, she and that friar,
I saw them at the prison: ... (Fr/Vo/To/Th; *Measure for Measure* V.i.134-35; Alexander 1970:110)
c. But this same Cassio, though he speak of comfort
Touching the Turkish loss, yet he looks sadly (To/Fr/Th; *Othello* II.i.31-32; Alexander 1970:1122)
d. They that mean virtuously, and yet do so,
The devil their virtue tempts, ... (To/Th; *Othello* IV.i.7-8; Alexander 1970:1139)

(34) *Italy* the Paradice of the earth, and the Epicures heaven, how doth it form our yong master? (To/Th; Nashe, *The Unfortunate Traveller*, 1594; Shorter Novels 1972:336)

(35) The next good property of epistolary style is perspicuity ... Few words they darken the speech, and so do too many; ... (To/Th; Hoskins, *Directions for Speech and Style*, 1599; Hudson 1935: 6-7)

(36) No man hath seen God at any time; the only begotten Son, which is in the bosom of the Father, he hath declared him. (To/Th; AV John 1.18)

(37) a. This Rule of Time how well it has been observ'd by the Antients, most of their Playes will witness; ... (To/Th*; Dryden, *Essay of Dramatick Poesie*, 1668; Holt Monk 1971:18)
b. *Corneille* himself, their Arch-Poet, what has he produc'd except *The Lier*, ... (To/Th; Holt Monk 1971:44)

(38) For, the establishment of the Jewish and Christian religions, which were events subsequent and contemporary with the miracles related to be wrought in attestation of both, *these events are just what* we should have expected, upon supposition such miracles were really wrought to attest the truth of these religions. (To/Th; Samuel Butler as quoted in Burn 1766:137)

(39) Miss Nelly, shoo's a fine lass! (To/Th; Joseph in *Wuthering Heights*; Brontë 1931:85)

(40) Thy little sister, Rachel, thou hast not forgotten her. (To/Vo/Th; Stephen Blackpool in *Hard Times*; Dickens 1969:290)

(41) Your children, they seem so close to you when they're little. (To/Th; Mrs Pennistan in *Heritage*; Sackville-West 1975:106)

(42) This Wrayburn as she married, 'e was nobody - jest to kiver up the scandal that's what she married 'im for. (To/Th; Mrs Pettican in *Strong Poison*; Sayers 1967:80-81)

(43) a. The colour bar, it means everything to these Americans. (To/Th; Mrs Nicoletis in *Hickory Dickory Dock*; Christie 1980b:22)
b. The pasta, it is good all the time. (To/Th; Maria, Italian cook; Christie 1980b:55)

(44) a. James, he can't take his wine nowadays. (To/Th; Swithin Forsyte in *The Forsyte Saga*; Galsworthy 1927:44)
b. They tell me she's never at home now; your uncle Jolyon he doesn't like it, ... (To/Th; James Forsyte; Galsworthy 1927:81)

(45) ... the wife and the daughter they've booked up a show what the women have got up or something, ... (Male speaker, Walsall (near Birmingham); Hughes and Trudgill 1979:55)

(46) These vagabond shoes they are longing to stray;
These little town blues they're all melting away.
(To/Th (twice); Frank Sinatra, as taken down from TV show)

(47) Ah þe leatere kimeð forð al on oþer wise. wurse feond þen þe oðer is. ... weila ha seið wa is me þ he oðer heo habbeð swuch word icaht. ... Sorhful ich am ⁊ sari þ ich hit schal seggen. ah for soðe swa hit is ⁊ þ is muchel sorhe. for i feole oðer þing he oðer heo is swiðe to herien. ah onont bis þing wa is me þer uore ne mei ham namon werien. þis beoð þe deofles neddren þe Salomon spekeð of. (To*/Th; *Ancrene Wisse*; Tolkien 1962:47)

(48) 'Nai', þu wult seggen, 'for þet fuloe nis hit nawt; ah monnes elne is muche wurð, ant me bihoueð his help to fluttunge ant te fode. Of wif ant weres gederunge worldes weole awakeneð, ant streon of feire children, þe gleadieð muchel þe ealdren.' Nu þu hauest iseid tus, ant þuncheð þet tu [seist] soð; ah ich chulle schawin hit al wið falsschipe ismeðet. (To*/Th*; *Hali Meiðhad*; Millett 1968:13)

(49) [Pertelote] Lo Catoun, which that was so wys a man,
Seyde he nat thus, ne do no fors of dremes?
...
[Chauntecleer] 'Madame,' quod he, '*graunt mercy* of your lore.
But nathelees, as touching daun Catoun,
That hath of wisdom such a greet renoun,
Though that he bad no dremes for to drede,
By god, men may in olde bookes rede,
Of many a man, more of auctoritee
Than ever Catoun was, ... (To*/Fr/Ij/Th; Chaucer, *The Nonne Preestes Tale*, ll. 120-21, 150-56; Skeat 1949:545)

(50) A Cook they hadde with hem for the nones,
To boille the chiknes with the mary-bones,
And poudre-marchant tart, and galingale.
Wel coude he knowe a draughte of London ale.
He coude roste, and sethe, and broille, and frye,
Maken mortreux, and wel bake a pye.
But greet harm was it, as it thoughte me,
That on his shine a mormal hadde he;
For blankmanger, that made he with the beste.
(To*/Th; *Prologue*, ll. 631-37; Skeat 1949:110)

(51) Mi fader, who that hath his love
Abedde naked be his syde,
And wolde thanne his yhen hyde
With Slep, I not what man is he:
Bot certes as touchende of me,
That fell me nevere yit er this.
(To/Th, Fr/To*/Th; Gower, *Confessio Amantis* iv.3276-81; Macaulay 1900:389)

(52) This mat*yr* mevyd the justisis wyf, and than he [=Yelverton] be-gan hise mat*yr* mor*e* boldly, ... 'Ya', seyth he, '3e schal ber*e* wytnesse, &c., and the o*þyr* Mayst*yr* Clement and W. Schipdham.' Cui ego, 'As for the wytness I schal bere I schal sey and writy*n* as I knowe', &c. Cui *ille*, 'I made hise testa-m*en*t, and I knowe', &c. Cui ego, 'I saw nevir testam*en*t of y*our* maky*ng*; and as for on testam*en*t that he made, and I knowe bo*þe* the writer*e* and maker*e*, aft*yr* hise wyl and intent 3e stonde stille there-in as 3e dede than', &c.
(To*/Th, To*/M-S/Fr/Th; Friar John Brackley to William Paston I, 1460; Davis 1976:333-34)

(53) And as for Dyryge or commendacyon for theyr frendes soules, all that seruyce they thynke to longe by all to gether.
(To*/Th*; *The Apologye of Syr Thomas More, Knyght*, 1533; Taft 1930:8)

(54) As for those that thou begettest after thẽ, they shal be thine own. (To*/Th; Coverdale, 1535; Gen 48.5)

THE CASES OF NOUNS AND PRONOUNS IN ANCIENT INDO-EUROPEAN LANGUAGES
MORPHOLOGY PARTLY AT ODDS WITH SYNTAX

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So influential was Latin grammar that its categories were continually applied to the modern languages of Europe, and elsewhere, even when the phenomena did not warrant it. In particular the cases of Latin nouns -- called nominative, vocative, accusative, genitive, dative, and ablative -- were attributed to the nouns of the Romance languages and English, although they lack the endings that distinguish those cases in Latin. Of the Old English case-endings, only one -- the genitive singular *-es* -- survived, with some phonetic diminution, to the present, as in *man's* or *guest's*. But grammarians called the word *man* nominative in a sentence such as *Man is mortal*, but the same word accusative in *God created man*, dative in *He gave man life* or *He gave life to man*, and so on. They even made it out to be genitive in *the rights of man*, equivalent to *man's rights*. The principle that emerges is that the cases were taken to be distinctions of meaning or function, expressed by phonetically different endings in Latin but just as valid in other languages -- including English -- where the placement of the noun relative to other words or the use of prepositions serves instead of endings on the noun.

In the last century or so, this interpretation of nouns in English and similar modern languages was largely rejected as a misleading fiction. Much of it, no doubt, can be restated so as to fit into a valid contrastive grammar that alerts the students of Latin to the fundamental differences between Latin and English. But something more remarkable has developed in recent years: A number of transformationalists have taken up the notion of case and applied it to discriminate between sentences that appear on the surface to have the same structure; for instance,

Mother is cooking.
Dinner is cooking.

Walter A. Cook terms *mother* the "agent" case, and *dinner* the "object" case,[1] evidently because an alternative sentence would be *Someone is cooking dinner*, or *Mother is cooking dinner* (where *dinner* comes after the verb and is the object according to all traditional terminology). This is a legitimate approach, but it should not be confused with the phenomenon of case as found in the ancient Indo-European languages -- Latin, Greek, Sanskrit, Avestan, Gothic, etc. -- and the modern ones, especially Slavic, where the ancient system persists. My paper aims at clarifying that system and examining some of its incongruities.

The starting point is that in the languages whose cases were first described by grammarians -- namely, Sanskrit and Greek --

there are as many cases as there are different endings of singular nouns, in one at least of the declensions -- i.e., one of the sets of nouns that exhibit a certain pattern of suffixes.

	'father-in-law'		'king'
	Sanskrit	Greek	Greek
vocative	{çváçura}	ἐκυρέ	βασιλεῦ
nominative	{çváçuraḥ}	ἐκυρός	βασιλεύς
accusative	{çváçuram}	ἐκυρόν	βασιλέᾱ
instrumental	{çváçurēṇa}		
locative	{çváçurē}		
dative	{çváçurāya}	ἐκυρῷ	βασιλεῖ
ablative	{çváçurāt}		
genitive	{çváçurasya}	ἐκυροῦ	βασιλέως

Each case has at least one syntactical function exclusive to itself, where no other case is possible.[2] But in the plural a Sanskrit noun has at most six or seven distinct case-forms, not eight, and a Greek noun has at most four, not five; for the vocative plural is identical with the nominative, except for a special rule of accent for the vocative in Sanskrit, and the dative plural ending in Sanskrit serves also for the ablative. In the dual there are still fewer case-forms -- three in Sanskrit, two in Greek.

The early Latin grammarians followed their Greek predecessors as much as possible, translating all the Greek terms. They added the ablative case, which is distinct in several declensions but coincides with the dative in the only declension that distinguishes between vocative and nominative:

	'bull'		'father'	
	Latin	Greek	Latin	Greek
vocative	*taure*	ταῦρε	*pater*	πάτερ
nominative	*taurus*	ταῦρος	"	πατήρ
accusative	*taurum*	ταῦρον	*patrem*	πατέρα
dative	*taurō*	ταύρῳ	*patrī*	πατρί
ablative	"		*patre*	
genitive	*taurī*	ταύρου	*patris*	πατρός[3]

So in all Latin paradigms there are more cases than case-endings. By comparing the use of *taurō* with both *patrī* and *patre*, the grammarians determined that *taurō* can be either dative or ablative.

For pupils learning the rules of Latin ever since then, the meaning of all these endings consists merely in being suitable or available for the syntactic role of this or that case. Where one ending serves for two or more cases, that is virtually like homophony between words: *iūs* means 'sauce,' but there is also a word *iūs* that means 'law' or 'right'; *uīs* is either a verb 'you want' or a noun in the nominative case, meaning 'force.' So the dative *taurō* could be replaced with the nearly synonymous *bouī* from another declension, and the ablative *taurō* with *boue*.

Yet a careful look will not allow us to conclude that the overlapping of cases was just an accident of phonetic convergence -- the prehistoric dative **taurōi* and the prehistoric ablative

**taurōd* having lost the sound after the long vowel in the unaccented final syllable.[4] The phonetic reduction did not jeopardize a semantically essential distinction; for in the plural, from remote Indo-European times, no difference between dative and ablative had ever been expressed. So, in the singular, *taurō* for both dative and ablative came into line with the plural *taurīs*.[5]

Still more revealing is the occurrence of the accusative ending of the same declension. Gender is involved along with case. The ending *-um* is both accusative and nominative if the noun is neuter (to keep the traditional term, which meant 'neither [masculine nor feminine]'; some modern linguists prefer to call it inanimate). Thus,

Scūtum reperī, 'I've found the shield'	like	*Gladium reperī* or *Taurum reperī*; 'I've found the sword' 'I've found the bull'
but also *Scūtum repertum est*, 'The shield has been found'	in contrast to	*Gladius repertus est*; *Taurus* 'The sword / 'The bull' has been found'
Scūtum est 'It's a shield'		*Gladius est* 'It's a sword.' *Taurus est* 'It's a bull.'[5a]

Greek, Sanskrit, etc., display similar phenomena, with endings cognate to *-um* and *-us*. The lack of a properly nominative form *scūtus* signifies that *scūtum* -- even when syntactically a subject -- is still a mere object, as indicated by the structural morpheme *-m*.[6] It is in the nature of the bull that in Latin such a noun cannot be of neuter gender; so only the accusative case can be *taurum*, while the nominative is bound to be *taurus*. *Taurum* is appropriate only when *taur-* is (so to speak) degraded to function as an object.

It is not obvious from the nature of a sword and a shield that one of them is *gladius* (nominative), *gladium* (accusative) like *taurus*, *taurum*, while the other is *scūtum* with no *scūtus*. A shield, to be sure, is defensive and less mobile; but the word for a somewhat different kind of shield, made of bronze, is *clipeus* (nominative), *clipeum* (accusative). It is common to say that nouns like *clipeus* and *gladius* are only grammatically masculine; but some animation was imagined to be in the things that they designate, at least originally. There was a little wavering: instances of *gladium* and *clipeum* as nominative, and one of *scūtus:*

quia nōn minus rēs hominem quam scūtus tegit

'since property covers a man no less than a shield does.'[7] The thought here not only makes the man an object, covered to keep him from harm, but also makes his property and his shield as it were a real protective agent.

The grammatical lesson that we have been taught is not quite true: that the subject of any Latin verb, active or passive, is simply in the nominative case, by a syntactical rule -- no matter what the words of the sentence mean. Rather, so long as the thing is regarded as inanimate, the form that ends in *-m* is made to serve in nominative functions too; but when animation is attributed to the thing, that ending becomes incompatible.[8]

This has some bearing on the theory that before the prehistoric Indo-European languages developed the cases as we find them, the forerunner of Indo-European had an ergative structure:[9] i.e., there was no difference between what we customarily call the subject of an intransitive verb and the object of a transitive verb, but the subject of the latter was markedly different. These three examples would thus illustrate the vestigial survival of something like pre-Indo-European ergativity:

Scūtum reperī 'I have found a (the) shield,'
Scūtum humī iacet 'A shield is lying on the ground,'
but *Scūtus hominem tegit* 'A shield covers a man.'

Another rule that misleads beginners in Latin is that the accusative ending marks the verb's complement -- whatever noun would come right after the verb in an English sentence. For the majority of verbs this is valid enough; but those which take a different case are enough to show that the function of the accusative case is not mere complementation. We translate *Scūtō ūtere* 'Use the shield,' but the case is ablative, the same as in *Scūtō plāgam repelle* 'With the shield ward off the blow.' Although the dative form happens to be identical in this declension, it is not involved here; for parallel examples from the "first declension," where the ablative overlaps with no other case, establish the principle just as well:

Ascīā ūtere 'Use the ax,'
Ascīā caede 'Strike with the ax,'
but *Asciam cape* 'Take the ax.'

Whereas *scūtum* is a shield as an object, *scūtō* is a shield as a tool; similarly *asciam* is an ax as an object, *ascīā* as a tool. With the verb *ūtere*, which means 'use,'[10] the appropriate case is the one signifying not the object but the tool.

Each ending presents the thing in a different guise or aspect; and the several guises cover or nearly cover the semantic or syntactical relations of the noun to other words in any sentence that it is liable to be brought into. Object and tool are tags for two of those guises, somewhat more pertinent than the names inherited from the ancient grammarians, but an exact definition is well-nigh unattainable. For example, many things will hardly ever be a tool; but some of them, with the same ending, will signify instead the source (or place from which); e.g., *domō* 'from home,' *Rōmā* 'from Rome,' *rūre* 'from the country.' Such a meaning -- 'from the shield,' 'from the ax' -- is compatible with *scūtō, ascīā;* but generally a preposition is added: *ab scūtō, ab ascīā.*[11]

Comparative grammar has explained that two Indo-European cases, the instrumental and the ablative, which remain separate in Sanskrit and Avestan, merged in the prehistory of Latin. Thus the Avestan {aspa},[12] which we may gloss 'with the horse,' would have been represented by *equō* in Latin, and {aspāṯ} 'from the horse' by **equōd*. But in the early records of Latin, regardless whether the sense calls for 'with' or 'from,' we find only the ending -OD, and in the classical period only *-ō*. Since the corpus is meager from the centuries when -OD was in use, we cannot be quite certain that

the merger of the two cases was already complete. But that uncertainty is incidental; the main fact is that in the time of ample documentation there is absolutely no difference in ending to correspond to the meanings 'with' and 'from.' The final consonant *-d* was gone; and insofar as any such difference in meaning was expressed, it was by means of a preposition.

The appropriateness of one case, rather than another, often goes hand in hand with a subtle semantic difference. From the English rendering 'You have hurt your father' we may too hastily infer that *Patrem laesistī* with the accusative and *Patrī nocuistī* with the dative are equivalent. But the verb *laed-* means literally 'bruise'; so *patrem* is indeed its physical object. The other verb expresses something more abstractly harmful to someone; the noun in the dative case expresses the person concerned. To be sure, the former verb may be used loosely or figuratively, without any actual bruising.

The trend, not only in Latin but in the related ancient languages too, was toward blurring some if not all case-distinctions.[13] The phonetic difference between some of the endings was just minimal. In Latin, as the final syllable was uniformly unaccented, the endings were most exposed to reduction, or even total loss. In Sanskrit, it must be acknowledged, the cases held on notwithstanding the *sandhi* that made the sound of each ending highly variable; e.g., the nominative ending that for convenience is listed as {-aḥ} becomes {-as} or {-aç} or {-a} or (most often) {-ō}, depending on the environment furnished by the next word. The educational or literary movement that made several languages classical managed to freeze their cases at a certain stage; but on the vernacular level, where the school had no influence, the untidy system went on disintegrating.

The morphological complications too, the discrepancies and incoherences from one declension to another (of which I have shown only a few specimens), made the system intrinsically unstable, although the grammarians tried to pin it all down.[14] The distinctions in meaning, moreover, were somewhat vague. So the cases were adaptable to miscellaneous relations within a sentence, but at times it is virtually a toss-up which of two cases to use. For instance, with the adjective *simile*, although the genitive case was construed consistently in the pre-classical comic poets --

Haud similis uirgōst uirginum nostrārum

'The girl isn't like our girls' in Terence (*Eunuchus* 313) -- thereafter the dative often replaces the genitive: *deō similis* 'like a god' (Vergil, *Aeneid* 1.589). It is no great wonder that these two cases coalesced in some declensions; thus *asciae* is either dative or genitive.

A declension is a recurrent pattern of case-endings, which nearly insures that any noun -- or, for that matter, any adjective -- can fit into a given sentence in the most appropriate guise. But, as we have seen, in each declension some endings serve in more than one slot. That they are then equally at home in every slot is a mis-impression conveyed by the tables in a grammar. For the neuter gender the same forms are listed as nominative and voc-

ative as well as accusative; but vocative occurrences are quite rare, and nominative occurrences somewhat restricted: Given an adjective of the "second declension," you can say *stultum est eum tenēre . . . cursum* 'it is foolish to hold that course' (Cicero, *Ad familiares* 1.9.21); but *sapiēns* 'wise,' being a participle of the "third declension," cannot be handled this way, **sapiēns est eum tenēre cursum*. A nearly equivalent construction is available in both declensions, using the genitive case-forms *stultī* and *sapientis*, which are implicitly animate or (according to the traditional terminology) masculine in examples such as *stultī erat spērāre (Philippicae* 2.10[23]), *sapientis est carēre patriā (Ad familiares* 4.9.4; cf. *Tusculanae* 5.28[81]).[15] English idiom rejects a literal translation 'it was of a foolish one to hope'; 'it is of a wise one to do without a fatherland.' We could say 'it was foolish of a man to hope'; 'it is wise of a man to do without a fatherland.' Whereas *stultum* with its ending from the "second declension" fits wherever a nominative (or accusative) neuter is called for, *sapiēns* with its ending is less fully acceptable in the neuter gender. The consonant *-s* at the end was extended from the nominative ending for the masculine or animate *(taurus, gladius*, etc.), as is evident from a comparison with the cognate participial formation in Greek and other languages.[16] *Sapiēns est*, with its age-old meaning 'he is wise,' could not be stretched to the impersonal 'it is wise.'[17]

Often disregarded are the utterances that consist of a case-form by itself, not construed with anything else. In our corpus of texts this phenomenon is naturally rarer than it must have been in ordinary speech; but I consider it of great theoretical import. The vocative case was recognised by the ancient grammarians to be most loosely linked to any other word in a sentence; indeed its meaning was evidently independent, the same whether alone -- *puere* 'boy' (Plautus, *Mostellaria* 990) -- or accompanying something -- *ī puere* 'go, boy' *(Pseudolus* 249).

Other cases admit of a similar explanation; e.g., the accusative by itself:[18]

Nūgās 'Nonsense' *(Captiui* 613, *Mostellaria* 1087, *Persa* 718);
Caunēās (sc. *fīcūs)* 'Caunian figs,' shouted by a peddler (Cicero, *De diuinatione* 2.40[84]);
Ō audāciam 'Oh, the nerve' (Terence, *Phormio* 360);
Ō hominem lepidum 'Oh, a nice fellow'[19] (Plautus, *Pseudolus* 931);
Mulierem lepidam 'A nice woman' *(Mostellaria* 206).

Some grammarians explain this by the term ellipsis -- something being left out; here they would posit a verb so that the noun could be its object. We can indeed cite passages such as *Aufer nūgās* 'Quit the nonsense' (Plautus, *Truculentus* 861), *Vidēte hominis audāciam* 'See the fellow's nerve' (Cicero, *In Verrem* 5.66 [170], *Pro Cluentio* 9[26]). But to posit some verb, specified or unspecified, amounts to begging the question, as though the accusative forms could not otherwise be correct and meaningful. Actually no other case-form is appropriate in the situations where we have found the accusatives *nūgās, audāciam, Caunēās*, etc., with no verb, just as no other case-form is appropriate

with the verb *aufer* 'take away,' *uidēte* 'see,' *uēndō* 'I'm selling' or *emite* 'buy.'

The meaning of the case-ending is such that it goes smoothly with all the contexts where it is used, and with none that require a different case. The ablative expression *Dextrō pede* 'Right foot' or 'With the right foot' was spoken by a doorkeeper to visitors about to cross the threshold (Petronius 30). It is possible for us to supplement his words variously: "Enter with the right foot" or "Use the right foot" or "Do it with the right foot." But the essential point for my argument is that even in the absence of any such supplement, Latin syntax still requires the ablative: the nominative *dexter pēs*, the accusative *dextrum pedem*, etc., are incompatible with the meaning, no less than the ablative plural *dextrīs pedibus* 'with the right feet' would be incompatible because the people have just one right foot.

Coming back to the recent revival of "case grammar" in English, we note that the Latin parallels to *Mother is cooking* and *Dinner is cooking* are distinguished structurally not by the case of the noun but by the voice of the verb:

Māter coquit is active;
Cēna coquitur is passive.

Cēna is not the object, as a transformationalist maintains that *dinner* is. Both *cēna* and *māter* are nominative;[20] but if we say 'Someone is cooking dinner' -- *Cēnam coquit aliquis* -- now *cēnam* indeed has the case-ending called accusative, marking the object. The differentiation of *cēnam* from *cēna* goes inevitably with feminine gender.

On the other hand, the Latin word *prandium*, which designates the light meal earlier in the day, is neuter; so it is unchanged in

Prandium coquitur 'Lunch is cooking'
and *Prandium coquit aliquis* 'Someone is cooking lunch.'

It is traditional to call *prandium* nominative as the subject of the passive *coquitur*, accusative only as the object of the active *coquit*. But I have argued it is the same *prandium* in both constructions, and I can accept the claim that *dinner*, by some syntactical criterion, is the object in the two English sentences *Dinner is cooking* and *Someone is cooking dinner*.

The dilemma will be either resolved or complicated further by looking at pronouns. In the languages whose nouns have lost all the ancient case-endings, or nearly all, the pronouns have nevertheless kept some striking remnants of case. The disparate development is less surprising when we reflect that when the case-system of nouns was at its height, that of pronouns was only in part integrated with it. Some case-endings are peculiar to pronouns, like the Latin *mē, tē, sē*, which have no parallel in the accusative endings of nouns. Moreover these are not only accusative but ablative -- a neutralization quite alien to nouns.[21]

The pronouns that are called plural are largely independent of their singular counterparts. Whereas in nouns each plural case-form is distinguished by its ending from the singular,[22] Sanskrit shows several endings that recur regardless of singular or

plural in these pronouns:

	'I, me'	'thou, thee'	'we, us'	'ye, you'
nominative	{ahám}	{tvám}	{vayám}	{yūyám}
dative	{máhyam}	{túbhyam}	{asmábhyam}	{yuṣmábhyam}
ablative	{mát}	{tvát}	{asmát}	{yuṣmát}

Besides, there are unaccented, enclitic forms that cut across the dative and genitive {mē, tē}, or the dative, genitive, and accusative {naḥ, vaḥ}. What is traditionally designated the "first person plural" is pieced together from entirely separate sources, which turn up also in English as *we* and *us*.[23]

The disparity between {ahám} and {mē}, or between *I* and *me*, is far more widespread. They refer to the same person physically, but in utterly separate roles. The alternation may appear to be purely grammatical in paraphrases such as

They respect me, / *I am respected,* compared to *They respect mother,* / *Mother is respected.*

But the millennial persistence of the alternation argues that in these pronouns it is somehow more meaningful, that from the outset *I* and *me* -- long, long before they came down to their modern English pronunciation -- were far from being mere modifications of a certain base through suffixes, like *taurus* and *taurum*. The ancestor of *I* and of *ego*, ἐγώ, {ahám}, etc. -- which are all labeled "nominative" -- was not at all related to the nominative case-form of any noun. And to find a nominative form of the other pronoun *me*, we must look rather to the ending of certain verbs, preserved in the lone anomaly *am* but more copiously in Latin, Greek, and Sanskrit, not just in *sum*, εἰμί, {ásmi} 'I am.' To judge from the divergences among the ancient languages in the extent of suffixing this morpheme to their verbs, it was most compatible with stative verbs, but less appropriate for designating the speaker as agent. Beyond what was indicated by the ending of the verb, no subject was required, as it is now in the most prominent languages of Europe: *I* or *je* or *ich* or я. So to add the pronoun conveyed emphasis, insistence, or contrast.[24]

All the so-called "nominative" pronouns, as well as the nominative case of nouns, were incompatible with certain verbs of stative form and meaning, which have been called impersonal; hence *taedet mē* 'I am fed up,' *taedet tē*.[25] One vestige of this restriction remained in early modern English: *methinks;* but gradually the syntax of it became too archaic and anomalous, and it gave way to *I think*.

I have gone over some of the constraints of case, as they were in ancient languages and as they still may be found in modern ones. They have perplexed the analysts of language much more than the distinctions of number; but at bottom the problems are similar. In *He respects them* and *They respect him* the rules of case determine *him* (not *he)* and *them* (not *they)* after the verb, but rules of number together with case determine *he respects* and *they respect*.

NOTES

[1]*Case Grammar: Development of the Matrix Model (1970-1978)* (Washington: Georgetown University Press, 1979), p. 74. His example is *The dinner is cooking;* I have modified it slightly to remove an unessential but possibly distracting element, the definite article.

[2]A comprehensive, well-balanced study is by Ana Agud, *Historia y teoría de los casos* (Biblioteca románica hispánica, Estudios y ensayos 306; Madrid: Editorial Gredos, 1980). The scholarly literature is huge; the theoretical conclusions that are agreed upon remain small, although for the practical purpose of reading and understanding the ancient texts all grammars are virtually united and free from doubt.

[3]There is also πατρόθεν 'from (or 'after') the father,' chiefly in early and poetic Greek; and quite a few other nouns turn up with the suffix -θεν. Though somewhat like the Latin ablative in meaning, it was not regarded as a case-ending by the ancient grammarians, but rather as a formant for adverbs. πατρόθεν is indeed removed from the category of nouns since it cannot take an agreeing adjective. See Jacob Wackernagel, *Vorlesungen über Syntax,* I (2d ed.; Basel: Birkhäuser, 1926), 300.

[4]Latin inscriptions from before the classical period show many instances of the ablative in -OD, cognate to the Sanskrit {-āt}; and one very early inscription has a dative NVMASIOI (= *Numerīō* in the classical period), the -OI being cognate to the Greek -ω; W. M. Lindsay, *The Latin Language* (Oxford: Clarendon Press, 1894), pp. 385-387, 390-391.

[5]-EIS with a diphthong until nearly 100 B.C.

[5a]Unless their precise source is stated, the Latin examples (and the Greek and Sanskrit ones) have not been searched out in the ancient corpus but come from my knowledge of the language, which any master of it will confirm. I am sure of *Taurus est,* whether or not it happens to be anywhere in a corpus of tens of millions of words -- just as I am sure of *It's a bull,* although it might not be found in a given English corpus of finite length. What constitutes valid linguistic data is a very serious question. I believe the touchstone is indisputable knowledge: No linguist ought to overrate his own command of any language, including his own, by introducing examples whose authenticity can be challenged by equally good authorities. But mere occurrence in a corpus does not guarantee that a given expression was more than a momentary quirk and so deserves to be treated as an established part of the language.

[6]Wackernagel (above, note 3), p. 302: "auch als grammatisches Subjekt bezeichnete ein neutrales Wort von Haus aus einen Objektbegriff."

[7]The grammarian Nonius Marcellus, *De indiscretis generibus* 226. 12 Mercerus = 335 Lindsay, cites a lone instance of *scutus* from a comedy of Turpilius (d. 103 B.C.): "scutum generis neutri; masculini Turpilius [frag. 40 Ribbeck]: quia non minus res hominem quam scutus tegit." Although Nonius took *scutus* as a masculine form

from the "second declension," it could also be explained as neuter from the "third"; for according to an etymology favored by the ancients, this Latin word for a shield made of hide over wooden boards is from σκῦτος 'hide,' a neuter noun of the Greek "third declension."

Conversely, but better documented, *gladium* occurs a few times as a neuter nominative; not only Nonius 208.12 Mercerus = 307 Lindsay: "Gladius masculini; neutri Lucilius [frag. inc. 85 = 1187 Marx]: haerebat mucro gladium<que> in pectore totum" -- 'the point <and> the whole sword stuck in the chest' -- but also several passages of Varro, *De lingua Latina* 5.116, 8.45, 9.81, *Res rusticae* 1.48.3. Quintilian 1.5.16 cites the plural *gladia* as a mistake in gender (neuter instead of masculine); his censure proves that he found people actually saying *gladia*.

[8]Normally neuter nouns that exhibit an *-us* form now and then rather than *-um* in a nominative function, such as *scūtus*, are very few in classical Latin. But in vulgar texts it is liable to happen to nearly any neuter noun, as the Romance development was beginning whereby the neuter category got absorbed into the masculine.

[9]Kenneth Shields, Jr., *Indo-European Noun Inflection: A Developmental History* (Pennsylvania State University Press [1982]), pp. 20-23; his subject is really prehistory rather than history. Also W. R. Schmalstieg, "Ergativity in Indo-European," in Y. L. Arbeitman and A. R. Bomhard (edd.), *Bono homini donum: Essays in Historical Linguistics, in Memory of J. Alexander Kerns* (Amsterdam: John Benjamins, 1981), pp. 243-258, especially p. 256; K. H. Schmidt, "Probleme der Ergativkonstruktion," *Münchener Studien zur Sprachwissenschaft*, 36 (1977), 97-116.

[10]Our word *use* comes (through French) from *ūsus* (masc.), *ūsa* (fem.), the perfect participle of *ūt-*.

[11]See J. Perrot, "Le fonctionnement du système des cas en latin," *Revue de philologie*, 40 (1966), 221.

[12]In early (or Gāthic) Avestan, if it occurred, it would be *{aspā}. The cognate instrumental ending in Sanskrit, {-ā}, was replaced almost totally in this declension by {-ēna}, even in the earliest texts; hence {áçvēna} (Rigveda 1.162.3).

[13]Wackernagel (above, note 3), pp. 302-305.

[14]That they did not succeed altogether, even within the confines of the school, is most apparent in the expressions *a priori*, *a posteriori*, *a fortiori* of medieval Latin logic (taken over by modern languages too). The *-i* ending is due to misapplying the rule that adjectives of the "third declension" have the ablative ending in *-i* like the dative; in classical Latin the comparative adjectives comprise a major exception to this rule and have the ablative in *-e* like *rūre* and most nouns of the "third declension."

[15]P. Baldi, "Morpho-syntax and the Latin Genitive," *Folia linguistica*, 11 (1977), 98-104; "The Influence of Speech Perception on Inflectional Morphology in Latin," *General Linguistics*, 18 (1978), 71-76; "Speech Perception and Grammatical Rules in Latin" in H. Pinkster (ed.), *Latin Linguistics and Linguistic Theory* (Studies in Language Companion Series, vol. 12; Amsterdam: John

Benjamins, 1983), pp. 17-20.

[16]E.g., 'standing'

	masculine	neuter	masculine	neuter
genitive	στάντος	στάντος	*stantis*	*stantis*

(throughout the genitive the two genders are identical)

στᾶς	στάν	*stāns*	*stāns*

[17]'He is wise to do without a fatherland' would be *Sapiēns est quī careat patriā*, using not the infinitive but a relative clause with the subjunctive.

[18]Roy C. Flickinger has made up for his predecessors' neglect in four articles on "The Accusative of Exclamation": ". . . in Plautus and Terence," *American Journal of Philology*, 29 (1908), 303-315; ". . . in Epistolary Latin," 34 (1913), 276-299; ". . . Lucretius to Ovid," *Transactions of the American Philological Association*, 49 (1918), 27-39; (with Clyde Murley) ". . . Seneca to Juvenal," *Classical Philology*, 18 (1923), 162-169.

[19]In Greek the genitive is used in a similar context, but less often than the accusative in Latin: χρηστῶ κοἰκτίρμονος ἀνδρός 'a nice, sympathetic man' (Theocritus 15.75); τῆς τύχης (Xenophon, *Cyropaedia* 2.2.3) as we might say 'some luck' or 'of all the luck.'

[20]With no ending, however, to distinguish the nominative from the vocative, and *māter* is often used vocatively.

[21]In early Latin *mēd*, *tēd*, *sēd* were also used, but with no distinction between accusative and ablative.

[22]Hardly any case-endings of plural nouns lend themselves to segmentation into two morphemes, one expressing the plural number and the other a specific case. In the Sanskrit {çváçurēbhyaḥ} it is possible to maintain that {-ē-} makes the noun plural and {-bhyaḥ} then makes it dative or ablative; for that is the relation between the morphemes in the demonstrative pronoun {tébhyaḥ} and {té} (nominative plural masculine), the relative {yébhyaḥ} and {yé}, etc. However, {-bhyaḥ} is in itself exclusively plural: it could never be the ending of a word that means 'for the father-in-law' (dative) or 'from the father-in-law' (ablative), and in most declensions it is added to a stem that is not already plural -- e.g., {çvaçrūbhyaḥ} 'for (or from) the mother-in-laws.'

[23]The {asm-} forms have singular reference in {asmāí} (dative), {asmāt} (ablative), {asmín} (locative) 'this one.'

[24]Whereas the French *je* is the phonetic descendant of *ego* (or of its unstressed variant **eo*), it can no longer convey any emphasis whatsoever; *moi* (< *mē*) is needed for that. Thus *ego illōs habeō* 'I have them' has become *je les ai* [ʒ(ə)|ez'e] 'I have them'; but to say 'I have them' is *moi, je les ai*.

[25]See H. B. Rosén, "*uterum dolet* und Verwandtes," *Folia linguistica*, 4 (1970), 135-147.

IV

APPLIED LINGUISTICS

WHAT THE SOCIOLOGY OF LANGUAGE HAS TO SAY ABOUT AMERICAN DIALECTOLOGY

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In recent years the Sociology of Language, a discipline within the academic concentration of sociolinguistics, has provided students of language with a variety of broadened perspectives upon such issues as language attitudes, the role of education in language spread, worldwide problems in language planning, the detailed circumstances of language death, the maintenance of regional languages, and bilingual education problems in the first, second, and third worlds. On dialectology in North America and abroad, past issues of the International Journal of the Sociology of Language have offered treatments of "The Social Dimension of Dialectology" (1976: Vol. 8) and of "Dialect and Standard in Highly Industrialized Societies" (1979: Vol. 21). The accumulating scholarship in this field proceeds from a set of assumptions and analytical approaches which furnish a number of important insights, some productive and some quite controversial, into the practices of traditional American dialectology as these have developed in the works of Hans Kurath, Bagby Atwood, and Raven I. McDavid and their students. This article will establish and discuss several premises which apply the principles and the methodology of the Sociology of Language to traditional American dialectology; we will see that the social science emphasis in this variety of applied linguistics suggests a core reorientation in the nature of American dialect study in the future.

The Sociology of Language as an academic field has developed as a large channel out of the mainstream of sociology itself. Since Emile Durkheim's emphasis on organic and mechanical solidarity, and since Ferdinard Tönnies' analysis of Gesellschaft as opposed to Gemeinschaft, there has been a contrast in traditional sociology between the influence upon individual lives of first, the rational power of federated organizations within the larger community, the state, and the nation, and second, the emotional forces in a person's relationships among family, near kin, the neighborhood, and the smaller local community. In the Sociology of Language, this opposition takes the form of the study of the impact on individuals of domains, which consist of the major institutions of work, religion, the state economy, and the state political ideology, as compared to networks, which constitute the relationships that an individual develops out of friendship and freedom of association. The most general principle in the Sociology of Language is that there arise in any person's behavior inevitable conflicts beween the influence of the domains and of

the networks. The clash between domains and networks as evidenced in language values and actions is studied in such topics as the problems of language variety and social class, the influence of literacy on language learning and use, the social setting necessary for a standard to evolve, the relationships between regional varieties and social mobility, the spread of prestige varieties under the conditions of modern urbanization and industrialization, the social and psychological character of bilingualism, and the social and political issues involved in twentieth-century language maintenance, spread, and shift.

As is true of all social sciences, work in the Sociology of Language is at its best when statistical data and factual analysis are emphasized. For instance, in Robert Cooper's classic essay on "The Spread of Amharic in Ethiopia" (1979), the emphasis is placed on the regional domination of differing ethnic groups, the ways in which Amharic came to be used in government, in education, and in mass communication, and the influence which road-building had in the spread of Amharic. An even more empirical view of the operation of the physical world in society is given in Brinkley Messick's discussion of the nature of restricted literacy in Ibb, the capital of Yemen: Messick must contrast the present, and the availability of telegraphy, telephones, television, a nearby telex service, and the use of "wet-process copiers" in streetside stores, with the recent past, when at different times collections of books and documents "had been ravaged by plundering raids on the town" (1983:42). In general, the Sociology of Language has important things to say about American dialectology with its emphasis on such common sociological concerns as population movements, ethnic behavior, urbanization, political planning, industrialization, and social and economic determinism; yet students of dialectology may learn most from the distinctively down-to-earth, practical, real-world character of the scholarship in this new discipline.

For all its breadth of view, scholarly sophistication, and large-mindedness, the Sociology of Language has at various times in the past been quite unkind to traditional dialectology. In a 1974 article, Gary N. Underwood criticized the work of Kurath and McDavid on the multiple grounds that it owed too much to European style and methodology, it tested for vocabulary items that were pre-industrial and even pre-mechanical in emphasis, it held that individuals learn language from the older generations rather than from peer groups, it tested for no stylistic variation, it constructed questionnaires which elicited either one-word answers or unanalyzable discourse as responses, it takes count only of its own test-words and phrases and finds no new lexical items, and generally its results and methods are "not salvageable" (1974:20). A less negative appraisal was given by Riley B. Smith and Donald M. Lance in 1976 when they remarked that "the ultimate unfruitfulness of Kurathian dialectology, for either historical or sociolinguistic enlightenment, is traceable to its failure to disclose patterns of internal variation, largely in the urban centers of the North" (1976:132).

It would seem that the Sociology of Language could offer a number of positive suggestions which are far more constructive than anything to be found in the work of Underwood or Smith and Lance. New answers to Joshua Fishman's classic questions "who speaks (or writes) what language (or what language variety) to whom and when and to what end?" and "what accounts for different rates of change in the social organization of language use and behavior toward language?" (1974:1630) must be supplied in a more affirmative way than any presented previously. In what follows, I will offer a set of Sociology of Language-oriented premises which are designed to direct future research in American dialectology toward more positive and productive ends.

We must begin with a definition of what a dialect is. Previous efforts to do this have mixed geographical and social class perspectives in a way which fails to give useful insights into the exact nature of the varieties, styles, and registers which an individual may command at any given moment in his or her life. For any educational or social purpose it is now more practical simply to define a dialect as a portion of a spoken language or a portion of a written language (compare Hammarström 1976). From this it follows that a person's dialect may be characterized with equal accuracy by describing either all the forms a person knows and is in command of, or all the forms a person does not know or is not in command of. In many cases for educational reasons it may be more pragmatic to list the varieties a person does not know how to use; what is left is that person's dialect. If we find, for instance, that a given American teenager 94% of the time uses language forms common to 87% of his peers to be found within a 15-mile radius, and that this person for 6% of the time can use the spoken forms of the local radio and television broadcasters, and that this person is wholly innocent of all forms used elsewhere and of everything written in English before 1977--then these are the facts which are worth knowing. This particular definition, it must be added, has the virtue of disregarding the cognitive-deficiency implications of the Bernstein and Bereiter deficit hypothesis; defining a dialect by accounting for those varieties which a speaker does not know says nothing on the subject of whether or not the speaker is able to learn those additional varieties. Acquiring the new varieties becomes in the Sociology of Language context the subject matter of language planning, and an emphasis upon that topic is beyond the scope of this paper.

There can be no quarrel from the Sociology of Language perspective with the Kurath and McDavid concept that it is necessary to trace American English dialects to an earlier historical origin. In my view, and in that of Joey Lee Dillard and Gary Underwood among others, it makes no sense to try to trace the dialects of this country back to specific regional dialects in Britain: after all, the various social interactions which made the dialects characteristically American occurred here and not in some other hemisphere. Compared to most students of the Sociology of Language, however, I must confess to an unusually

retrograde frame of mind on the subject of historical origins. I am one of those people who hears long vowels and diphthongs in American English dialects, and I tend to hear them in precisely those environments which contain the reflexes of Middle English and Early Modern English long vowels and diphthongs. You cannot imagine my dismay at reviewing the transcriptions to be found in the decades of issues of the journal American Speech, and at finding no acknowledgment of vowel and diphthong length. It is even worse, of course, to ponder such long-standing opinions as those of Lehmann and Heffner (1943) as they allege that vowel length may be noticed only when words with post-vocalic tongue-tip consonants are contrasted with words with post-vocalic lip consonants (the notion is, you see, that it takes longer to pronounce the vowel in a word you finish up with your lips than it does when you finish one up with your tongue). Steadfast in my view, I can find no peace with the phonetic conditioning approach which shows that vowels will accommodate physically to a following consonant (for a splendid picture of a modern linguist wrestling with this problem see Sledd 1966) or with the paradigm-and-alternation approach in the derivational rules in the Sound Pattern of English (1968). When I see rule-writing demonstrations like these, I always have to ask, "But where do the vowels find the time to behave like that? Didn't many of them start with some extra time at the outset?"

In the problem of vowel and consonant length, I believe that the kind of thing which Stephen Jay Gould describes in his history of IQ measurement, The Mismeasure of Man, has also occurred in linguistics: we don't hear vowel length because we don't see it in our scholarly sources. Yet in his English Phonology and Phonological Theory (1976) Roger Lass makes a convincing case for vowel length to be considered as basic in English phonology, and he develops a particularly persuasive argument in tracing the distinctive New York City diphthong /ɔə/ from an Early Modern English long open o (/ɔː/) (see pages 135-141). What is needed is an extensive elaboration of Lass' research and research methods, for they promise to show that the history of American dialects will eventually focus principally on the reflexes of the Early Modern English long vowels and diphthongs. The fact that such a history will also socially foreground the Inland Northern dialect, is of course quite convenient for the argument I wish to develop later.

Once the concepts of the nature of dialects and of their history are agreed upon, a Sociology of Language approach would stipulate that dialect research must proceed from an informed background on social stratification and on the principles of language spread and shift. The most recent research on social stratification asks that we consider the following perspective: in most cultures some amount of interaction or social motion is the common case. When upward social mobility is limited in any way, social classes form. When mobility is extremely slow, castes form (compare Turner 1984:180). This view takes interaction and motion in society as a norm, and social classes,

whether they are measured objectively or by subjective self-report as in the traditional formulation by Richard Centers (1949), are seen as transitional groupings. The usual discussions of stratification concentrate upon questions of the distribution of wealth and comparative prestige, occupational status, occupational mobility by sex and race, socioeconomic achievements in differing urban sites, the passing of money from one generation to the next, and the problems of ethnicity and economic determinism (see Hauser and Featherman, 1977); the new emphasis by Jonathan Turner shows that the boundaries in our striving for wealth, status, or power are more nebulous than we would ordinarily believe, and it is instead only the striving which is a constant.

For purposes of research in dialectology, it is of the keenest interest to describe the nature of language use in as large a diversity of social settings as possible. From this standpoint, one of the major characteristics of social stratification itself would be that in an extremely complex and segmented society (see the argument in Polenberg, 1980) one single, transregional dialect would change from a geographical to a social variety and would then function as an instrument for upward social mobility. In America, this is in fact what has happened: the dialect in question is Suburban White Inland Northern English, or as Raven McDavid styles it, SWINE.[1] A Sociology of Language emphasis in American dialectology would insist that we begin with a study of the distribution of SWINE in all regions and in all social classes throughout the country.

A second direction for future research lies in the contrast between those spoken varieties which are strongly influenced by literacy and those which are markedly less influenced by literacy. For some time Goody and Watt have been investigating the results for cognition when reading and writing are introduced to preliterate cultures (1963, 1972, 1977); for our purposes, there should be a research emphasis on the ways in which literacy influences a speaker's sophistication of vocabulary and complexity of syntax in the casual speech style. As a University teacher who does his professing in southern California, I have long noticed that migrants from eastern urban centers like Boston, New York, Philadelphia, Cleveland, and Chicago habitually use longer sentences and a more resourceful vocabulary in their speech (and in their writing, since students lately attempt learned prose with the casual spoken style). Sentence length and vocabularly size from those outsiders show a substantially higher influence of a culture of literacy than is the case with our home-grown crop of students. It is apparent that the culture of literacy from the distant East is itself the product of family and school values which have been handed down over the past three or four generations. Michael R. Olneck and Marvin Lazerson, who are specialists in the educational history of American immigrants, have argued that it was not the <u>content</u> of American education in the period from 1870 to 1890 which served the newly-arrived Americans of that era particularly well, but instead three factors gave a special <u>intensity</u> to the education of that time in a way that

may mark our language use to this day. First, there was an overall thrust in "Americanizing" the immigrants with particular emphasis on the work ethic and on "industrial discipline" (1980: 307); second, a counterthrust emerged when groups who felt they had been slighted (the Scandinavians, the Italians, the Czechs, the Germans, and the Dutch especially) insisted on bicultural or in some instances parochial schooling in their native cultures; and last, an intense multi-generational competition developed when it was generally perceived that special ethnic groups (the eastern European Jews, the Swedes, the Germans, and the Romanians) were more successful than others at acculturation and at their new American schooling. In the sum of these cases, the intensity in the educational experiences of the past shows itself in observable differences between East Coast and West Coast dialects in the American present.

The Sociology of Language also would change certain current views about the Black English dialect. Arguments about schooling and literacy and their effect on shifting Black English Vernacular to a more nearly SWINE-ish variety came to a sharp focus in Burling's English in Black and White (1973). Since that time the question of dialect shift is directly related to the nature of black social mobility specifically and of black-white interaction generally. In the extent to which mobility has remained extremely slow, we must agree with Labov's 1972 assessment that Black English Vernacular is indeed a caste dialect. When it can be demonstrated that social mobility has indeed speeded up, we may then say that those Americans Blacks and whites who have some command of an additional dialect variety nevertheless retain a social class dialect in Black English. This perspective holds that the Creolist Hypothesis is important for a diachronic understanding of the structure of Black English; yet in a synchronic emphasis we can best proceed with an approach which categorizes the dialect according to its social class significance.[2]

Next, we must ask why a large number of Americans have chosen to become bidialectal in their regional variety and in SWINE. Why has this dialect with its careful enunciation of [r] and the developing neutralization of oppositions between [a] and [ɑ], and between [a] and [ɔ], spread from the Great Lakes to the Southwest and to the Pacific Northwest? Why do people claim this so-called General American dialect as their own even when it is demonstrably true that they speak some other regional variety? Why are Inland Northern Speakers the most likely to insist that their speech is "accent"-free, while everyone else speaks a dialect? How has Inland Northern come to be the preferred alternative dialect in all regions of the country?

The answers to these questions must first acknowledge the enduring historical and social importance of the growth of industrialization around the Great Lakes in post-Civil War America. We may say that that era began with the discovery of oil at Drake's well in August, 1859 at Titusville, Pennsylvania. This marked the end of what Lee A. Pederson has called the Water Transporation Era in the Midwest, and it began the Railroad Era,

when coal could be brought more readily to the cities in the region for the rapidly developing steel industry (1965). The major statistical resource for American industrial growth for the period between 1880 and 1920 is the report of the Fourteenth Census of the United States (1923), which gives comparative figures, whenever possible, on the growth in that 40-year span of manufacturing in steel, vehicles for land transporation, mining, coke production, and many other businesses. By the year 1919 the Inland Northern dialect region contained a great portion of the nation's industrial wealth in blast furnaces, steel works, rolling mills, internal combustion engines, automobiles, and rubber goods. Here we may invoke the principle that the workplace is one of the institutional domains in the Sociology of Language, and language behavior takes form and spreads outward from that domain. In the spread of Inland Northern, modern research on the geographical mobility of occupations supplies some crucially important demographic principles for our consideration. In the first place, the professional, semiprofessional, and business elite classes prove to be more mobile geographically than any others (see Lipset and Bendix 1959:206n). Next, migrant professionals ordinarily come from a higher social status to begin with, and they tend to be more successful than the average in their given occupation (Blau and Duncan 1967:257). Lastly, this group tends to be influential in the communities to which they move: they "typically achieve higher occupational status than nonmigrants" in their new communities, especially when they have moved from large cities to smaller ones (Blau and Duncan, p. 272). In their study of the geographical mobility of the business elite in America between 1928 and 1952, Warner and Abegglen (1955) found that 45% of the managerial class had moved to a different region from the one in which they were born. About one-fourth of the business leaders in this period came from the "East North Central" (the Inland Northern) region; of this number, about 40% were mobile, with half moving to New York, Pennsylvania, and New Jersey and the other half moving to the Upper Midwest, the South Atlantic states, and the Pacific states (1955:182). A major factor in the spread of the Inland Northern dialect, then, is the mobility of that managerial group studied by Warner and Abegglen.

Still another force in the spread of Inland Northern could be located at work at Hiram College, in Ohio's Western Reserve, about 28 miles southeast of Cleveland. Most scholars are familiar with John S. Kenyon's American Pronunciation (1924; 10 editions through 1954) and with his and Thomas Knott's A Pronouncing Dictionary of American English (1944). Too few are aware of the nature of Kenyon's contribution as the "Pronunciation" editor of the Second Edition of Webster's New International Dictionary of the English Language (1934). A careful examination of Kenyon's work there shows that he set up a group of patterned pronunciation contrasts: "American" as opposed to "British" and specific dialects as opposed to "the prevailing speech of the whole country" (p. xlviii). Here we see that the open o /ɔ/ is disappearing in dialects outside of those on the east coast, and that the low

fronted [a] is preferred generally in the U.S. to the lowcentral [ɑ] (p. xlviii). Kenyon was thus establishing as a de facto standard the speech of Ohio's Western Reserve, and the speech of the managerial class in Cleveland: Inland Northern. With Kenyon's emphasis in Webster's Second, and with the practically identical guide for broadcasters in the NBC Pronouncing Dictionary (1943), Inland Northern had become the prescriptive standard in American speech.

A Sociology of Language emphasis thus shows that it is though the momentum of economic development and through the culturally legislative power of an important dictionary that a dialect may spread. Inland Northern has become a form of Business English, shared in contexts away from the family and from the movement of Gemeinschaft relationships; it spreads from one peer group to another and not from one generation to the next. It is generally an insidious kind of peer pressure which establishes Inland Northern as the standard toward which the linguistically insecure (in Labov's 1972 formulation of the notion) move in fits and starts in their social relationships. The spread of Inland Northern occurs, as well, under the typical conditions discussed in most Sociology of Language studies: there are conflicts between domains (the dialect of business and education) and networks (the dialect of the family, the neighborhood, and the region). The fact that the spread of this particular dialect receives little empirical study may reflect a subconscious American value that the particular domains involved are more important than people's networks.

In conclusion, a Sociology of Language approach suggests a reorientation of American dialectology toward research results which assume a knowledge of social stratification, peer group interaction, the strains between domains and networks, and the nature of language and dialect spread. The study of regional pronunciation and vocabulary is of course important all by itself; but we must move beyond that if we wish to understand in greater depth the ways in which dialects are learned and used.

Notes

[1] Professor McDavid offered this special acronym for Inland Northern at the University of Wisconsin-Milwaukee Urban Dialects Symposium in March 1978.

[2] For the argument that Black English is not a racially distinct variety, see Joey Lee Dillard's Black English (1972).

[3] For the emphasis on the behavior of /a/, see Kurath (1961) and McDavid (1958). For a loud alert on the social significance of the loss of open o, see Labov (1964).

[4] For the movement of Inland Northern beyond the Great Lakes region, see DeCamp (1971) and Reed (1961).

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THE SOCIOLINGUISTIC SIGNIFICANCE OF INTRA-STYLE VARIATION IN GUYANESE SPEECH

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One of the ways sociolinguists attempt to correlate linguistic phenomena with social behavior is by trying to explain language variation in terms of social intentions (conscious and sub-concious) and social norms. Code switching is particularly interesting in this regard. Speakers very frequently switch from one code or dialect variety to another in the course of a conversation (provided, of course, they possess the necessary competence in the two varieties). These switchings are at least partly motivated by social principles and can be shown to be systematically related to the linguistic patterns. Many sociolinguists, including Fishman (1970), have attempted to characterize the sociolinguistic principles inherent in code switching behavior. This paper is principally a contribution to that kind of sociolinguistic analysis, focusing on the English/creole English linguistic culture in Guyana, South America. Specifically I shall be trying to explain why groups of speakers and individuals have patterns of choices which select different proportions of English and creole ("mesolectal" and "basilectal") linguistic items in different parts of a one-hour (approximately) conversation with me.

The data used in the study were collected in 1974 as part of a wider study reported on in Edwards (1975). Seventy-two working class, male black and East Indian Guyanese from two communities (one rural, one urban) and between the ages of twenty-one and seventy-five were interviewed. The data were analysed for the occurrence of variants of fifteen grammatical variables. The results were summarized in terms of the following social variables: race (black/Indian); community (urban/rural) and age (21-30/45 plus). The urban community was Georgetown, the capital city of Guyana; the rural community was the Ann's Grove/Clonbrook village complex, twenty miles from Georgetown

along the main East Coast highway. Ann's Grove is populated mainly by blacks; Clonbrook mainly by Indians. The informants were divided into nine groups each with eight members. One group the NNE (Non-Native Urban) was a transient group of individuals who were currently working in Georgetown but whose homes were in rural villages. Each of the fifteen grammatical variables has creole and English variants. In some cases there are two creole variants, one basilectal and the other mesolectal. In this paper we shall consider only three of these variables, each with three variants. Variables subject (mi), habitual marker (a) and progressive marker (a) have respectively English variants ai, Ø and Aux Ving; mesolectal variants a, doz and Ving, and basilectal variants mi, a and a.

Examples:

Subject (mi): ai ate the mango "I ate the mango"
a eat the mango "I ate the mango"
mi eat the mango "I ate the mango"

Habitual marker: (a): He plays baseball (ie Ø)
"He plays baseball"
He doz play baseball
"He plays baseball"
He a play baseball
"He plays baseball"

Progressive marker: We are playing baseball
"We are playing baseball"
We playing baseball
"We are playing baseball"
We a play baseball
"We are playing baseball"

Each speech sample is divided into three sections: early interview, later interview and narrative. In the narrative part of the interview, speakers recite a "danger of death" or ghost story.[2] These divisions are referred to as intrastyle divisions since I assume that informants are using the same style of speech throughout the interview - essentially what Joos (1961) labels the consultative style. This is the style people typically use when they are talking informally to strangers. The decision to divide the interview into these phases was made (following LePage 1972 and Younge 1973) because of the general observation that speakers, even when they are talking into microphones, pay relatively less and less attention to their speech

as an informal conversation progresses, provided that no topic or situation provides a stimulus for self monitoring during the conversation. This relative inattention to speech provides the analyst with insights into the natural, uninhibited speech behavior of informants.

Tables 1 - 3 show the Guyanese sociolinguistic culture is polarized on the principle of community. The basilectal variants are almost never used by native Georgetown speakers, whereas they are used very frequently by rural speakers. This indicates a dialect division which is the consequences of a social division. It is not the case that rural speakers are ignorant of the English variants or visa versa - the smallness of the Guyanese society and particularly the proximity and accessibility of the two communities under discussion make such an inference irresponsible. As I showed in Edwards (1983) sociolinguistic behavior in Guyana (and everywhere else) is more complex than the general stereotypical responses to questionaires would suggest. There is a general public admiration for English and a genuine popular desire that English remain the official language of the country but we see interacting with that public support for English the rural behavioral pattern whereby basilect creole items are used with great frequency even though they are despised in the city. Whether one explains this polarization in terms of the norms of network systems (following Milroy (1980)) as I have tried to do elsewhere (see Edwards 1984) or use some other explanatory device (such as reference group theory) one needs a social explanation of these differences.

Speakers in both communities are sensitive to the public respect for English. One notices on tables 1-3 that in general English variants decreased as the interview progressed. As an example, we can consider the usage by the ORB group on variants of subject (mi). In the early interview phase they use ai 29.32%; in the later interview 28.05% and in the narrative 16.62% of the time. The YRI's adjustment on Aux Ving is quite dramatic. They use the English variant 35.44% of the time in the early interview but only 7.31% in the narrative sequence.

The information on tables 1-3 also reveals interesting characteristics of some of the groups. The

INTRA-STYLE VARIATION

TABLE 1

Subject mi

Groups*	Early Interview (ai)	(a)	(mi)	Later Interview (ai)	(a)	(mi)	Narrative Interview (ai)	(a)	(mi)
OUB	85.0	14.9	0.00	36.3	13.6	0.00	64.2	35.7	0.00**
OUI	83.2	16.4	0.36	74.5	24.9	0.44	79.7	19.8	0.36
YUB	87.4	12.6	0.00	77.6	22.3	0.00	72.1	27.8	0.00
YUI	75.5	24.4	0.00	79.3	18.5	2.06	74.9	24.1	0.88
NNU	58.5	23.2	18.1	40.3	48.0	11.5	11.4	45.3	43.2
YRB	34.4	53.6	11.9	51.7	36.3	11.8	45.4	36.9	17.5
ORI	38.9	17.2	43.7	32.3	18.3	49.3	27.5	11.7	60.6
ORB	29.3	20.5	50.1	28.0	10.9	61.0	16.6	15.3	68.0
YRI	36.3	4.49	59.1	30.4	15.3	54.1	22.5	19.3	58.0

TABLE 2

Habitual Marker a

Groups	Early Interview (Ø)	(doz)	(a)	Later Interview (Ø)	(doz)	(a)	Narrative Interview (Ø)	(doz)	(a)
OUB	48.7	51.2	0.00	53.1	46.8	0.00	48.0	52.0	0.00
OUI	54.7	45.2	0.00	36.6	63.3	0.00	20.0	80.0	0.00
YUB	42.5	57.5	0.00	50.0	49.9	0.00	45.0	55.0	0.00
YUI	63.3	36.6	0.00	15.2	84.6	0.00	30.0	70.0	0.00
NNU	55.0	25.5	19.4	20.0	50.6	29.3	27.9	27.0	44.94
YRB	12.3	87.7	0.00	2.00	86.0	12.0	17.5	62.5	20.00
ORI	23.5	26.3	50.7	18.3	30.0	51.6	30.0	0.61	69.39
ORB	20.0	22.5	57.5	33.3	15.5	51.1	20.0	21.1	58.82
YRI	2.00	38.0	60.0	0.00	30.0	70.0	0.00	44.0	56.00

*Key:

OUB: Older Urban Black
OUI: Older Urban Indian
YUB: Younger Urban Black
YUI: Younger Urban Indian
NNU: Non-Native Urban
YRB: Younger Rural Black
YRI: Younger Rural Indian
ORB: Older Rural Black
ORI: Older Rural Indian

** Figures shortened to one decimal point.

TABLE 3

Progressive Marker a

	Early Interview			Later Interview			Narrative Interview		
Groups	(Aux Ving)	(Ving)	(a)	(Aux Ving)	(Ving)	(a)	(Aux Ving)	(Ving)	(a)
OUB	73.3	26.6	0.00	79.9	20.1	0.00	58.3	41.6	0.00
OUI	88.2	11.7	0.00	83.5	16.4	0.00	67.5	32.5	0.00
YUB	76.1	23.8	0.00	82.4	17.5	0.00	33.3	66.6	0.00
YUI	75.6	24.3	0.00	69.5	30.4	0.00	30.0	70.0	0.00
NNU	72.0	8.00	20.0	59.8	24.0	16.1	21.4	73.3	6.25
YRB	57.2	33.0	9.74	44.6	44.7	10.5	50.0	34.0	16.0
ORI	63.2	18.6	18.0	47.3	33.2	19.4	33.3	48.7	17.9
ORB	55.2	24.5	20.2	40.4	15.0	44.4	43.3	39.3	17.2
YRI	35.4	27.6	36.8	4.77	75.9	19.3	7.31	45.1	47.5

NNU group deserves special comment. This group of men were very sensitive to the competing norms of Georgetown and rural areas. On all three variables they used the English variant most in the early interview but adjusted dramatically towards the creole variants in the later interview and narrative sequences. On the habitual marker (a) variable, for instance, the NNU used the basilect variant 19.45% of the time in the early interview and 44.94% in the narrative sequence.

Of all rural groups, the younger rural blacks (YRB) use the fewest basilect tokens - their adjustments towards the basilect during the course of the conversation is the least dramatic of the native rural groups. On the other hand the younger rural Indians use the basilect items very frequently. On variable progressive marker (a), for example, the YRB use the basilect variant respectively 9.74%, 10.58% and 16% in the Early, Later and Narrative phases of the interview compared with 36.88%, 19.33% and 47.50% for the YRI in the respective parts of their interviews. If one applies the conventional creolists' wisdom to these facts one would have to conclude that the YRB members are farther along the linguistic continuum than their Indian counterparts who live in the same spot and share the same main road. I find that to be theoretically unattractive and, based on my own native knowledge of this area and these people, decidedly counterfactual. In reality, the YRB and YRI have very different life styles and values. The YRB is a restless group. Their members frequently go to Georgetown (where the majority of the population is black) and find its social and political life appealing. However, the rural ethos remains their natural and most comfortable habitat and rural speech behavior consequently is not stigmatized by them to the extent that it is in Georgetown. The YRI, on the other hand, generally eschew urban society where most people are black and stereotyped as hostile since the Guyanese society at the time (1974) was still fragmented by racial animosity between East Indians and blacks. The younger Indians were generally the most politically and racially assertive and were, in my view, less inclined than younger blacks to speech behavior that resembled that used by the middle class blacks they considered

their political problem. In addition, Clonbrook village society (where the Indians predominantly live) was correctly described by DePres (1967) as more egalitarian than Ann's Grove. In social network terms that translates into a greater linguistic homogeneity because of the pervasiveness of creole speech norms. The older rural groups (ORB and ORI) behave quite similarly on the basilect items, suggesting that race is a more significant variable among younger rural people than among older inhabitants.

Tables 1-3 give important information about the relative social evaluation of the creole variants. The mesolectal variant doz, undoubtedly enjoys the highest social approval in the society. It is used very frequently by both rural and urban speakers in all three phases of the interview. In fact two of the urban groups (ORB and YRB) use doz more than 50% of the time in their Early interviews. All the native urban groups prefer doz to the English variant in the narrative sequence. The second most popular creole variant (from the data presented in tables 1-3) is Ving. However, the insecurity of the NNU group seemed evident from the fact they use Ving only 8% of the time in the Early interview but use it 72.32% in the narrative sequence.

The relative unpopularity of the a variant of subject (mi) is linguistically and sociolinguistically interesting. Allsopp (1959: 11-15) and Bickerton (1973: 663) considered a a reduced form of ai. One would expect therefore that speakers who value ai highly would use a quite frequently. However, we see that doz and Ving which bear less linguistic resemblance to the English variants of their variables than a reputedly does, are used more frequently than a. The truth is that a is a re-interpretation of ai and is perceived as a different linguistic item (and as belonging to a different linguistic system from ai). The linguistic resemblance between ai and a is illusory. Guyanese ai is a closing diphthong which starts from an open front position and moves to [i]; a is a short open, pure back vowel similar to Am. Eng. /ɑ/.

Of the three basilectal items the a variant of progressive marker (a) is the least socially approved. Except for the ORB in their Early interview and the YRI in the Early and Narrative phases the figures for

the a variant are relatively low. We are forced here to appeal to a social principle to explain these patterns since a linguistic explanation is difficult to support. The a variant of progressive marker (a) is clearly not psychologically or linguistically more difficult to learn than the a variant of habitual marker (a). They are both pre-verbal aspect markers in creole. Yet one variant is used on the average 23.3% of the time by native rural speakers and the other (habitual a) is used 46% of the time by the same speakers. This suggests that communities arbitrarily accord social value to linguistic items irrespective of the membership of those items in linguistic systems.

We also see that it is difficult to attach any of the labels acrolectal, mesolectal or basilectal to any of the groups described on tables 1-3 or any of the individuals on table 4 (where the behavior of eight speakers on habitual (a) is shown). One might say that Ganesh is a mesolectal speaker on the basis of the fact that 47.2% of his 36 habitual marker (a) tokens were doz, but what of the 13.9% English items and the 38.9% basilectal items? Linguistic explanations are valuable in that they provide environmental constraints which help to predict which of the variants is likely to occur in a particular linguistic frame, but these linguistic conditions are not always defensible even in linguistic terms (as Kean Gibson (1982) has shown in his critique of Bickerton's work) and must always be subject to social constraints.

Table 4
Eight individual performances on variants of Habitual marker (a).

			Variants		
Name	Group	No. of tokens	Ø	doz	a
Ganesh	YRI	36	13.9	47.2	38.9
Berkshire	OUB	81	44.4	24.7	30.9
Pompey	ORB	22	63.6	13.6	22.7
Johnson	YRB	31	0.0	48.4	51.6
Verway	YUB	14	50.0	50.0	0.0
Diaram	NNU	72	58.9	27.4	13.7
Singh	ORI	62	37.1	48.4	14.5
Alli	ORI	37	70.3	29.7	0.0

Conclusion

I have tried to show that linguistic choices in a multidialectal culture such as we find in Guyana can be used to make inferences about social divisions and the societal evaluation of linguistic forms. This paper therefore gives additional support to the general sociolinguistic premise that language and social behavior are irrevocably bound together and that a culturally revealing theory of language must be a sociolinguistic theory.

Notes

1. The basilect, mesolect and acrolect are terms in Derek Bickerton's Creole continuum model which, generally, claims that speakers could be arranged in a linear manner along a continuum beginning at the basilectal level (the most conservative variety of Creole,) through the mesolect which resembles both English and basilect Creole to the acrolect or Standard English.

2. "Danger of death" stories were made popular in sociolinguistics by William Labov (1972). He found that people tended to give their most informal speech when telling tales in which their lives were threatened.

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PREVERBAL COMMUNICATION: COMPARISONS OF A SEMIOTIC SYSTEM ON ITS OWN

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I. Overview

The human semiotic ability has developed domains of signals which linguists classify under such categories as "para-linguistical," "kinesical," "proxemical," "gestural." However, the phenomenon with which this paper deals is one in which behavior of each of these, and others, occurs simultaneously.

Interest in M.A.K. Halliday's Nigel study centers on the evidence it provides for the development of language in a child. An additional area of interest lies in its observations of preverbal development. This paper begins with an example from the Nigel corpus and, by using additional evidence of two children's preverbal development, illustrates the value of closer and earlier attention to nonverbal "action" modes of human semiotic potential. The importance and problems of developing means of describing and recording such phenomena is the main theme. Early steps in this direction are outlined.

II. The Argument

Research methodologies frequently exclude as unusable or irrelevant observations from commonplace nonverbal interaction with very young children. However, such interaction contains valuable information on the human potential, both universal and individual. In part, neglect of this area is the result of unfamiliarity with methods of making use of observations of daily activities, and, in part, the outgrowth of a form of communicative ethnocentrism which encourages the attitude that only speech development is worthy of serious attention. As a result, study of preverbal communication has been retarded by lack of accepted categories for describing and recording observation of "action." Consequently, cross subject, age, or culture, comparisons of such nonverbal events as described below, have been given relatively little attention.

This paper argues, (1) that there are fundamental insights into human communicative and wider semiotic abilities to be gained before children use their first words; and (2) that needed for such insight are ways of describing observations which attend to phenomena beyond single gestural, proxemical, kinesical signals. The aim of the work, of which this paper is a first report, is to establish a taxonomy of comparative features of preverbal "action" communication.

III. Subjects

Nonverbal sequences of two similar, late-speaking boys provided the corpus from which samples are drawn. One subject was from the United States of America, the other from the People's Republic of China. Both children were from homes where both parents were university teachers and highly developed users of their spoken and written native languages. Each family lived in a semi-urban location among a close-knit community providing frequent and varied interaction with adults. Each home was monolingual. In one, grandparents were principal caretakers; in the other, child care was provided in conjunction with another child. Both boys' parents, although unnecessarily as events showed, had been concerned about the delayed speaking. In one case, the parents asked for medical advice. On entering school, both children were tested as above average, and both became successful users of their respective languages.

IV. Task, Origin of Study

Regan (1983) in a three-year study of an American child's pre-, interverbal, and early verbal period noted similarities and differences between these two domains of the child's acting on the world. Based on that study, he proposed three hypotheses that: (1) sustained reliance on action and spatial solutions requiring imaged sizes, was associated with the child's development of a spacio - architectural sense; (2) there were changes in the child's manner of dealing with people and problems immediately following the shift to reliance on a verbal mode; (3) independently, there were commonalities in ways this social reality was manipulated by the child in both the pre- and the verbal stage.

Data from other observers in other situations and with other subjects were needed to test these hypotheses. Such research required participant-observers to gather data over an extended period and in the natural context of the child's home and school life. However, the problem was to identify those distinctive features, and to articulate them so as to give other participant-observers sufficient guidelines so that data with the same features in non-repeatable actions could be isolated in different situations, with new subjects.

Specifically, the questions initiating the research were: What are the precise features of that similarity the linguist's ideal "native speaker" senses in such interactions as those described below? What, if any, is the sine qua non that would determine that externally unequal communicative events were, in fact, internally alike? Is there a hierarchy of similarities such that primary and ancillary characteristics in events could be described? Could continua of alikeness be established in each characteristic?

Comparison of a U.S. with a P.R.C. corpus provided an opportunity to place together data from two similar boys from two dramatically different cultures. Clearly, in their verbal stage, the subjects would be

separated by linguistic barriers. But in a study of their naturally occuring preverbal communicative events, would similarities show, and, if so, of what sort? With this broader interest as motive, the reported effort at methodology was initiated.

The following sample from the P.R.C. and the U.S.A. corpus provides evidence of dimensions of similarity and indicates that by combining characteristics the task of data gathering is facilitated.

For the purpose of this paper's discussion of a methodological issue. we have not needed matched data from each child. Rather, we have selected the clearest illustration of the category available.

V. Samples of data used to establish descriptive features

Each event is, in fact, an illustration not of one but of multiple characteristics. Hence, each sample could be also used to illustrate another category than the one shown here. Further, most of the characteristics below can be considered as a scale or a continuum. Along these, each datum could be placed such that the location would show the degree to which that characteristic was evidenced in that datum. For example, on each of the characteristics that deals with types of "representation," the communicative event can be placed along a continuum that ranges from "action" through to "forms of likeness" to a pure, "symbolic, non-iconic, arbitrary" form. For example, categories 1-3 are diverse forms of this iconic/non-iconic representation and each event, therefore, can be seen as being on a scale from actual action (e.g., taking a chocolate, pulling a person) to representation of that action. Categories 4 and 5 are each from separate domains of commonality. Categories 6-9 record more mechanical aspects of the events like length, escalation of steps.

Category 1: TRUNCATED ACTIONS. "Type of representation" is the broad class of common features under which the following iconic type action is contained.

Externally the two communicative events of Nigel and Lulu following are quite different. However, there are commonalities that make them alike. Both children used actions derived from previous non-symbolic actions. These, however, were abstracted and stylized so that, without prior knowledge, others would not understand them.

The example taken from M.A.K. Halliday's Nigel corpus describes an act which developed from pure action -- a child's typical grab-push actions which evolved into an iconic sign: "The second [sign] to appear was the 'I want' sign, expressed by grasping an object firmly but momentarily, and then letting go; and this was followed almost immediately by a contrasting sign, 'I don't want,' expressed by touching the object lightly with outstretched finger and then taking the finger away. . . . On other occasions, of course, he did grab at objects or push them away, and then he looked at the objects. . . . The contrasts between these two

was unmistakable. The expressions were, very clearly, iconic; they were related to the meanings in a non-arbitrary way. Nevertheless, the act was a symbolic act. Nigel was not acting directly on the object itself -- he did not pull it towards him or push it away; he was addressing a person, and he looked not at the object but at the person he was addressing. . . ." (Halliday, 1977)

Datum i: In Nanjing, the People's Republic of China, Lulu, the subject, used a fundamentally similar type of sign in that it was constructed also from an earlier direct action:

For his speedy completion of a new jigsaw, Lulu was praised by his father who signaled the traditional right hand, thumb up gesture meaning "first class." Also, he said, "Great, Lulu." As the boy had not noticed, the father said, "Lift your head and see. You are this." The boy looked. The act of raising the head was thereafter truncated and used by the boy as a sign of <u>expecting</u> praise. He used this with people (teachers, for example) who did not comprehend its significance, and consequently communication problems ensued.

There is no record of Nigel's trying this signal on others, but like the P.R.C. subject, presumably Nigel, as all children may, did try to use it with others with unknown success.

Datum ii: When it was time for Lulu to go to bed, his mother lay down by him and sang him a song having the words: "Early go to bed, early get up. . . . Pick up a big grape in the garden tomorrow morning." With closed eyes, the child smiled at the stressed words, "a big grape." When his mother stopped singing, he opened his eyes and urged her to sing again and again. The child always smiled at the words "a big grape." The mother, therefore, asked, "How big is the grape?" The child opened his eyes, reached out his arms to signal a circle as big as a basketball, and said his ubiquitous, "En, en." (Age 26 months)

Here the subject used an iconic sign for roundness and size. His act looked round and big. But he went beyond depicting shape and size in that act to include a joke -- an exaggeration -- of bigness. These separate signs fused into one action illustrate the density of child's awareness involved in the one momentary act.

<u>Category 2</u>: IMITATIVE ENACTMENT. The following data were taken at two different stages of the subject's communicative evolution and hence illustrate a cross model research possibility. The first is from the preverbal stage, the second from the verbal of the U.S. subject. Each has a fundamental similarity despite the external difference.

Datum iii: The American subject, Alan, had left the lunch table ahead of his parents. Impatient for them to leave also, he returned and, with exaggeration, enacted a custom his parents were not aware they themselves practiced. He took their table napkins simultaneously from their laps, waved them in the air, flamboyantly dumped them on the table in front of

the parents, and walked out.

Datum iv: In sharp contrast to an earlier aged quiet, waiting style, the onset of Alan's verbal stage was accompanied by tantrums and peevish demands to meet his linguistically framed wants precisely (a behavior, in fact, that gave rise to one of the initiating hypotheses mentioned above). In retreat from one such episode, his parents moved to another room. Shortly after, the child followed slowly. On seeing his parents, he recruited a dramatic form, and exclaimed, "I'm looking for my mommy and daddy." Recognizing this nonverbal compromise strategy, his parents cooperated with the child's script, accepted this solution to the situation, and assisted Alan in his search.

Both examples also illustrate the indirect characteristic below.

Category 3: EXTENDED ENACTMENT.

Datum v: Lulu gently pushed his grandmother, using both hands, at the small of her back to a corner of the yard. Then he ran back to his original place and closed his eyes, laughing lightly. The puzzled adult came back to the child. who pushed her in the same way, returning to his place and closing his eyes. Speculating that the child was acting out the game of hide-and-seek, his grandmother began pretending to look for him anxiously. The child then laughed victoriously. (Age 14 months)

Datum vi: Coming back from the mailbox. Lulu's uncle was reading a newspaper. The child also took out a newspaper and began to act out "reading" while following his uncle. His aunt passing by went to see what Lulu was doing with the upside-down paper. Laughing, she turned it right side up. (Age 30 months)

Datum vii: After dinner, as usual, Lulu's grandfather went to sit on a sofa. The boy climbed down from his chair, climbed up to the other sofa, looked at his grandpa, and put his right leg over his left leg. His grandpa, pretending not to notice, took a newspaper from the tea table and began to read. The boy took another piece of newspaper. The grandpa uttered, "Hen." The boy did, too. His grandpa shook his right leg, Lulu did the same, continuing such miming until the adult laughed. Then Lulu jumped down from the sofa and laughed heartily. (Age 32 months)

Category 4: FUNCTION/TASK. For the "purpose," "task," or "function" of the event, Regan's six overt social functions (Ziajke, 1981) were used.

Examples of this category were "social control/regulatory" events iii, v, iv, x. The Nigel touch "I want/don't want." The similarity among these events on this characteristic was in part their being acts of social control/regulation of others' behaviors.

Category 5: DIRECTNESS/INDIRECTNESS. Examples of characteristics are iii, iv, x.

Category 6: SEQUENCE OF ACTIONS/MULTIPLE STEPS.

In the following, the oblique, indirect-persuasion approach was used in conjunction with a sequence of signs.

Datum viii: The U.S. subject in a visit by neighbors went to where an older child was sitting and touched his hands briefly. He took both hands and, holding on. walked slowly backwards to an open place on the floor. Next he let go, flopped down flamboyantly and sat upright with his legs astride, steadily looking at the second child. This unit of nine integrated steps was frequently repeated as a prologue to play. (Age 26 months)

Datum ix: The P.R.C. subject, not being noticed by guests at a dinner at his home. went into the kitchen and pulled his mother into his room by tugging at one corner of her coat. Once there, he pointed at a small round stool on a shelf. He used the "en, en" sound. His mother took down the stool, handed it to her son asking, "Do you want this stool?" Instead of taking it, Lulu pointed to the dining room, repeated, "En, en," and lead his mother to the dinner table. He pointed at a chair and patted on it, using the same sound. The mother placed the stool at the table, and when he sat, he sighed with contentment. (Age 18 months)

Category 7: ESCALATION OF STEPS. The following events are also sequences of actions, as were those in Category 6. Such overlapping of characteristics facilitates making a profile of the individuality of the events. However, the difficulties of such simultaneity has retarded the development of research in the area of communication.

Datum x: Lulu's mother took him to see one of her friends. The boy while sitting on her lap, noticed a plate of chocolates nearby. Rather than take one, he communicated his wants indirectly. Beginning a sequence of hints, he moved his hand slowly onto the table, touched the plate momentarily, and then looked at his mother who pretended not to notice. He repeated his action, without result. He waited, then took his mother's hand and put it near the chocolate plate. Meanwhile, Lulu looked with a shy smile in the opposite direction. (Age 19 months)

Datum xi: A four-year-old guest was visiting Lulu's home. Looking at the older boy sitting on the sofa. Lulu leaned against a table while he swayed slowly and rhythmically back and forth. Suddenly, he ran back to his room and came out with a toy car in his hand. He put it on the sofa near the guest and ran back immediately to his room. The second time he came out, he put a toy tank near the guest's hand and then ran away again with an uncontrolled laugh. The third time, he pressed a toy gun into the older boy's hand. Just when he was about to run away, he was caught by the visiting mother. Then Lulu laughed and began to play with the guest. (Age 15 months)

Category 8: USE OF OBJECTS. The next data show a greater directness and have less representational iconic form.

Datum xii: To retrieve a balloon the father had the previous evening attached to the ceiling, the U.S. subject first looked around the room, hauled a low stool underneath the balloon, then tugged his mother until she was beside the stool. He let go, stood with hands at side, and looked steadily at the balloon until his mother stood up and fetched it down.

Datum xiii: Lulu was playing with a ping pong ball that rolled out of reach under his bed. He began looking behind doors until he found the object of his search, a long bamboo pole. Halted by an inquiry from his sitter, the boy took the adult to his room and pointed under his bed, paralleling his action with his customary "en, en" vocalization. The adult looked and retrieved the ball. The adult's intrusion created a social situation with which explanation (showing) dealt.

Unlike Alan, Lulu did not need an adult's size to solve the space problem above, yet both boys used objects for spatial extensions. The physical/distance problem was addressed with accurate estimation and solved with appropriately lengthened tools that bridged the gap between child and goal. This next event indicates a different type of arrangement of objects, and for a different purpose.

Datum xiv: Lulu usually left his small bike wherever it was when he stopped riding it. One evening he was practicing in the sitting room. When he stopped to take a break, his mother encouraged him, saying that he was doing so well that he could ride on the street as adults did. The child smiled, waited some moments, and then pushed his bike into the courtyard. "Come in. It is too dark to ride outside," his mother called. Without any response, the boy pushed his bike towards the bike parking place, where his grandparents' and uncles' bikes -- five in all -- were standing in a line. He put his bike close to one of the adults', looked, moved it again closer to the line, turned around, and clapped his hands over his head and behind his back.

Category 9: ARRANGEMENTS OF ENVIRONMENT.

Datum xv: The P.R.C. subject was familiar with the adults' procedure for outings. One Sunday afternoon the boy's mother said she was going out. The child, until then playing on the floor, hurried into his room, put on his sun cap, and came out to get the sitter. He took her to a corner where his bamboo chair was hanging. He pointed at the chair, and then ran with the chair to his mother's bike. His mother fixed the chair on the bike, put him into it, and pushed the bike out of the yard. The subject turned, pointed at the seat, and said, "En, en." (Age 26 months)

Datum xvi: When he was 17 months old, the U.S. subject and his parents were visiting neighbors. After introductions, all sat at a table around which were seven familiar faces and a new guest. That the host opposite the subject and the guest had the same name had no apparent importance until someone introduced the familiar activity of asking Alan to point to

a person when his/her name was given. When he was asked to point to John the host, the child unexpectedly pointed at the visitor. To carry forward the consequent group joviality, the host responded with mock indignation. The youngster listened, waited, and then looked around him. After a pause he slipped down from his chair, passed almost unnoticed behind the four people separating him from the host, went directly to him, took hold of his arm, and tugged. He sustained the tug until the adult stood up and followed him to a clearing on the floor. The child then flopped down, spread his legs, sat with them astride, picked up a toy car nearby and pushed it along the floor to the now similarly seated adult. (Age 17 months)

VI. Discussion

While the samples are used here principally to illustrate one or two characteristics, each datum or event, in fact, is composed of a number of elements. The actual similarities are constructed of a complex of factors. Therefore, in describing the sort of example for which a research comparison is needed, a researcher might indicate the data sought is nonverbal persuasion, indirect, iconic representation, escalation, etc. Exactly how many characteristics are necessary for identifying the essence of specific data is an issue of being explored.

The data used here also could be regrouped so as to point out other features of commonality which are not discussed here but nevertheless are of value for the present purpose. These data could be recategorized to identify more dimensions than those discussed here. For example, the U.S. subject's verbal proposal that he was looking for his parents was indicative of a determination to maintain his ego position. They were similar in terms of indirectness, ego establishment, dramatic enactment. In a fragile situation it was similar in this respect to Lulu's escalation of hints toward the plate of chocolates. Both were risky strategies the possible problems of which the subject's paralanguage signals and gestures were intended to reduce.

We have described an effort to identify factors which could be used in gathering preverbal "action" data by teams of observers. This is an essential step in the study of naturally occurring events.

The literature contains studies of early preverbal, communicative behavior, such as eye movements, touching, single movements of hand, head, etc. Few assist in comparing unequally sized and contextually different events composed of multiple and simultaneously operating factors, as described above. The above samples show two children of widely different cultures in control of fundamental abilities (forms of representation, sequencing of units, direct and indirect approaches to problems, etc.) upon which spoken communication would later develop. While some of these boys' actions are reminiscent of the stimulus/response behaviors found with pets responding to and giving signals related to food, "walk," etc., there are clearly significant differences.

To this point we have investigated only a nonverbal "action" mode. This limitation allowed study of particularly useful forms of representation, i.e., the iconic-nonarbitrary feature of the communicative signals, pure actions evolving into signs. This central characteristic has been illustrated here by a series of examples. The U.S. subject used a variation of this characteristic in the napkin example, a pantomimed fragment of behavior which the child correctly assumed would be understood. The P.R.C. subject, using iconic action for play and explanation, represented an enormous grape as an adult might in exaggerating the size of the fish or the degree of a headache.

Based on that sense of alikeness which guides the anthropological linguist's identifying the knowledge of the native speaker, a concept extended in Regan and Ziajke (1981) to include the "native doer", discussed in this paper, the stylized head lifts, the touches of objects, the demonstrations can be grouped in one dimension of likeness. Mixtures of pure actions and symbolic acts are also evidenced in the stool and dinner table, reading the paper, hide-and-seek, mimicking the grandfather, placement of the bike, and other events.

VII. Applications

Observations of naturally occurring actions have been used to indicate features of commonality in nonverbal communications that include more than the subject's use of kinesics, proxemics, gesture, intonation, etc. The ultimate purpose of identifying these common features is to assist in preverbal, cross-cultural, cross-modal, and cross subject comparisons.

In a study surveying the scope of Western research in the subfield of nonverbal communication, Xiao-ling Hong writes of the Lulu-Alan corpus: "Born in different countries, separated by a vast ocean in space, the boys Lulu and Alan belong to two entirely different cultures. It would seem that from whatever communicative point of view they are compared, the subjects are different. . . . A closer examination, however, reveals some distinguishable, common, communicative characteristics. Both of these verbally late-developing boys relied to similar sophisticated degrees on their nonverbal potential to act on the world. Both of them used iconic and non-iconic signs, both used direct and indirect action, imitative and arbitary means to change situations, explain, play, and so forth, across a range of functions. These similarities taken together suggest to some extent pictures of twin brothers." These pictures, of course, once the subjects began to speak, were less clear. The dramatically different languages obscured the similarities that has been behind their erstwhile single communication system.

Having a different purpose, the present paper has only touched on this "universal" theme and has, therefore, not presented an equal number of matched examples which would be needed to address this topic or that of developmental sequence within which lie significant information about normal and exceptional communicative development.

VIII. Conclusion

In searching children's preverbal communication to obtain increasingly closer matching data from independent observers, we are identifying factors of similarities in apparently superficially different communicative events. By stripping away the external features of these events, we are beginning a description of data classes.

As a check on the practicality of the characteristics identified to this point, participant-observers have been asked to select preverbal data that met the criteria of, for example, indirect, multi-stepped, mimed, regulatory behavior. Initial results from the assistants in such data gathering indicate that without further description examples can be obtained regardless of the language, culture of the observer, or the child being observed. We are thus able to provide preliminary descriptive profiles of preverbal events and examine the clarity of the categories. As by-product to this work, such observers (parents, teachers, etc.) gain insights into the child being studied, this indicates the future possible advantages of such work for people working with young children..

Like any early researchers, those seeking to identify and communicate to others the features of similarity in phenomena not previously studied require wide opportunities to observe, record, compare, and contrast data. This paper has discussed problems, issues, and present results of establishing such a means of gathering and comparing preverbal, interverbal, and verbal data so that they can be compared and contrasted. The purpose is ultimately to assist uncovering the information that lies in the flow of seemingly disparate communicative events in the "thickness" which Clifford Geertz (1973) has discussed, that lies in the description of the naturally occurring human behavior.

In one sense the investigators' problem is itself one of communication, namely that of articulating the consistencies in seemingly unlike events such that the exterior differences covering universal human stages and activities can be peeled away. The central issue in such efforts is how to establish objective criteria by which externally quite different communications can be examined as examples of human development.

There is a danger that such events as used in this report can be regarded as simply anecdotes, the uniquenesses of which prohibit their being models for other observers, or bases upon which research about normal and exceptional development could be built. However, as with other units of linguistic study in the past, if the characteristics can be established, important domains of research would be opened. Towards such an end this paper is a contribution.

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FOCUS GRAMMAR AND LANGUAGE ACQUISITION RULES

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At various meetings of the LACUS Forum during the past several years, I have presented papers which were based on the assumption that a scientific theory of language should be founded on the thesis that linguistic rules represent the specific mental processes involved in the derivation of a sentence. In other words, linguistic rules do, in some sense, have a psychological reality in the mind of the speaker. (Barnes, 1980) In this paper I will discuss the role of such rules within a performance grammar with special interest toward the acquisition of the rules.

The Monitor Model

Stephen Krashen (1978,1981, 1982) has proposed a model of language acquisition, the Monitor Model, which is based on the distinction between subconsciously learned 'acquisition' rules and consciously learned 'learned' rules. (Fig. 1)

Fig. 1
(Krashen, 1982, 16)

The role of the 'acquisition' rules is to generate communicative speech; the 'learned' rules function primarily as a monitor on the output of the 'acquisition' rules, whence the name of the model. Although one may or may not agree with the model as Krashen presents it, I think few foreign language teachers would disagree with the claim that the distinction between monitor and acquisition captures a very important phenomenon of second language acquisition, namely the fact that a knowledge of the grammar of a language does not guarantee the ability to use the language; the ability to communicate in a language, on the other hand, even fluently, does not guarantee a knowledge of the grammar

of that language. Probably every experienced teacher of a second language has known students who do very well on grammar tests, but who can scarcely communicate even the simplest desires.

Although Krashen perceives the Monitor Model as a model of language acquisition, it is obvious from Fig. 1 that the model might equally well be perceived as a performance model, in which the 'acquisition' rules describe the cognitive processes active in the production of a sentence in accordance with the thesis mentioned in the first paragraph of this paper. In fact, Krashen himself uses both performance model and production model to refer to the Monitor Model (1981, 3; 1982, 16), and it is from this point of view that I approach the model. Henceforth I will use the term performance in reference to the overall model and the term production rules specifically to refer to Krashen's rules of acquired competence or 'acquisition' rules. I am less interested in Krashen's suggestion that the production rules are subconsciously acquired, than I am in determining the nature of the rules. It seems obvious that a closer understanding of such the production rules could provide extensive insights into the processes of linguistic performance in general, and particularly of language acquisition. It is my thesis that the production rules correspond very closely to rules included in the Focus Hypothesis.

The Focus Hypothesis

The Focus Hypothesis developed directly from a desire to explain the origins of linguistic universals, as discussed in Barnes (1983,283-85). The following basic assumptions underlie the Focus Grammar:

ASSUMPTION 1: Language and the real world are integrally related and it is the basic function of language to represent the speaker's perception of the real world in abstract terms.

ASSUMPTION 2: The production rules map the speaker's perception of the real world into the utterances of the speaker's language.

In other words, the production rules map a semantic structure onto a syntactic structure. Notice, however, the phrasing, "the speaker's perception of the real world", because this aspect of the basic assumptions has some major consequences for the formulation of the model and is the source of the name of the model[1]

Consider the proposition in (1a), representing an event in the real world, in which the arguments have the basic roles as in (1b):

(1) a. buy (millionaire, painting, artist)
b. BUY (AGENT, OBJECT, SOURCE)

This single event could be perceived by a speaker and expressed linguistically as any of the sentences in (2)

(2) a. The millionaire bought the painting from the artist.

b. The millionaire bought a painting from the artist.

c. The painting was bought from the artist by a millionaire.

The differences among the three sentences are easily described. The difference between (2a) and (2b) is of course determined by the discourse context. The articles a and the have the specific functions of marking the nouns as being either 'new information' or 'old information'.

The difference between (2a) and (2c) is determined by the speaker's perception of the event itself. Consider what happens when the speaker observes the event in (1). He may perceive it as a unified whole---up to the point at which he tries to express it verbally. The phonetic nature of the human language, whether expressed orally or written, forces a sequential ordering of the elements in the event, which forces the speaker to focus his attention on one part of the event at a time[2]. This focus process results in turn in such variant constructions as the active voice as expressed in (2a) and the passive voice, as expressed in (2c). These descriptions of the passive voice are not really new. What is different about the descriptions, I believe, is my assertion that the passive construction is the direct result of the operation of the cognitive processes on the observed event. The resulting sentence structures are completely predetermined by the underlying cognitive operations.

But the focus process also operates at a much deeper level in the performance grammar. Consider once again the event represented in (1). When the millionaire looks back on his purchase, he is likely to describe it with a sentence something like (3):

(3) I bought the painting from the artist.

But the artist views the event from the other end of the action and would probably be more inclined to describe it differently, as for example in (4):

(4) I sold the painting to a millionaire.

Thus the same event perceived by two different speakers can result in two entirely different utterances, not only in terms of different focus at the syntactic level, but also lexically. I assert that the lexical differences between (3) and (4) result from the same

type of focus processes as account for the differences between (2a) and (2c). Both the purchaser and the seller perceive themselves as the initiators of the action, and this difference in perception results in the use of the different verbs.

In order to account for such differences, one must alter the performance grammar in Fig. 1 to allow for such focus processes, as in Fig 2.

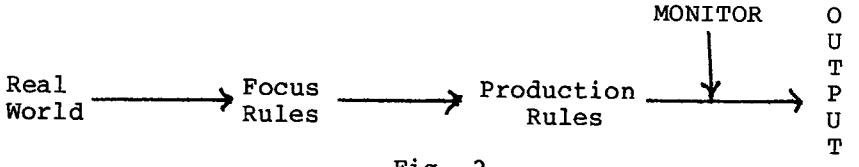

Fig. 2

Performance rules such as the ones I have discussed above are the really important ones and the most interesting in the study of human language, because if my thesis is correct, then these rules are the productive ones that generalize and generate new sentences, new constructions and linguistic change in general. The monitor rules merely portray the formal surface structure of the language, which has little impact on the generation of language until they have been extracted from the monitor and internalized as acquisition rules. It also follows that it is focus rules such as these that are 'acquired' in Krashen's sense and that should be taught in second language classrooms. (See Barnes, 1983 & 1984)

Consider the passive rule discussed above. Since focus plays the deciding role in the derivation of the passive, it should play an essential role in grammar exercises as well. This can often be accomplished through the proper use of questions about an event. For example the question "What did the millionaire do?", when asked about (1), would elicit the response, "He bought the painting," or perhaps "He bought a painting." The question "What happened to the painting?", should prompt a response such as "It was bought by a millionaire." A careful choice of situation and stimulus would allow the learners to practice grammar constructions using rules much more similar to the rules used in actual speech.

Conclusions

In this paper I have discussed the role of focus as a cognitive factor in the derivation of the passive voice. I have chosen the term Focus Hypothesis to refer to my theoretical assumptions because the focus process plays such an important role in the model, but that

does not necessarily mean that focus is the only process operating in the performance model---only that it is a very important process. But whatever the processes, the implications are generally clear for the practice of L2 acquisition. The cognitive environments play a vital role in the use of grammatical rules and if we want to help L2 learners acquire such performance rules, then we must begin to integrate those cognitive environments into the grammar exercises. By determining the cognitive factors active in the generation of syntactic constructions, then we will have a much greater understanding of actual rules that a language learner must acquire and thus have a better opportunity to investigate the manner in which he acquires those rules.

FOOTNOTES

[1] This approach is obviously a 'functionalist' approach in the terms of Bates & MacWhinney (1982).

[*2] The concept of focus in the Focus Hypothesis is similar to MacWhinney's concept of perspective in the Perspective Hypothesis, according to which a speaker uses the first element in the English sentence as a starting point for the organization of the sentence as a whole.

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THE PLACE OF GRAMMAR

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No practicing language specialist needs to be reminded that grammar has occupied a position of central importance in the history of civilized nations. The educators as well as the policy makers of every major cultural tradition have concluded that their language must be codified in some way, usually as a body of written rules. There are many reasons why grammars grow to be significant artifacts of civilization. These reasons range from a consensus that language should be prescribed in form for special religious or literary purposes to a felt need that a linguistic banner be raised to accompany other instruments of colonialism. When Juan Nebrija presented his Gramática Castellana to the Spanish court in 1492, he argued that it would enable conquered peoples to speak to the queen con la misma voz, i.e., with the same voice.

As interesting as such historical tidbits are, my purpose here is not to trace the development of grammatical traditions. Instead, I wish to address the well-established and usually unquestioned association of grammar with the teaching and learning of a foreign language. It is certainly not farfetched to expect that a learner of a language should find some use in having the grammar of that language explained in a logical fashion. This expectation adds considerably to the consternation of each new generation of American foreign language teachers when they discover that many of their students--perhaps a majority of them--have no real understanding of grammar or even any interest in it. The general lack of enthusiasm for grammar among the uninitiated is perhaps understandable in view of the fact that learning a foreign language is the first time that most students are asked to do anything practical with grammar.

For those pedagogues who are resolute in raising the grammatical conscience of their young charges I can suggest several books that treat the subject with frankness and simplicity. For example, there is English Grammar for Students of Italian by Sergio Adorni and Karen Primorac (Ann Arbor: Olivia and Hill, 1982).

Adorni and Primorac define grammatical terms in admirably non-technical ways. For example, they call the infinitive 'the name of the verb.' Another book, this one for teachers of English as a foreign language, is by Marianne Celce-Murcia and Diane Larsen-Freeman. It carries the unadorned title of The Grammar Book (Rowley, Mass.: Newbury House, 1984). Apparently, its authors suspect that even the teacher is unlikely to know much about grammar. The announcement for the book taken from the publisher's catalogue claims that it will 'enable prospective and practicing teachers to better understand the structure of the language they have chosen to teach.'

I do not wish to denigrate the well-intentioned efforts of applied linguists to help foreign-language teachers with grammar. Instead I wish to point out that such efforts reflect the underlying and still widely held assumption in linguistics that a grammar of a language comprises all that is essential to that language. This assumption continues to motivate linguists to write both specific and universal grammars with the belief that we are stating the most important matters in doing so. It also inspires foreign language teachers to accept without question that knowledge of the grammar of a language is tantamount to knowing the language. But what happens in reality? What goes on in the customary grind of foreign language instruction? In what sense is grammar 'real' for a learner?

To find answers to these questions, I have been keeping a log of commentaries and reactions by students enrolled in foreign language classes at the University of Delaware. Since I currently occupy the chair of the department such remarks come naturally to me. My position also requires me to make occasional visits to classes to observe instructional practices in action. What has sustained my enthusiasm through these otherwise onerous tasks is a professional concern as a linguist with learning more about the nature of languages, how people teach them and, most importantly, how anybody is able to learn them.

To be sure, grammar--and I do not exclude 'pragmatic grammar'--is a statement of language as an artifact, i.e., as a body of rules or structures. As such, grammar does not comprise the ways in which each speaker uses language to achieve goals. It cannot be concerned with the strategic function of language since these functions vary with each speaker and situation. Against this backdrop we find that students most frequently respond that their reason for studying a foreign

language is to be able to speak with people. Since the domain of grammar does not extend to communicative functions, grammar is unable to address a major need of those for whom it is intended. Grammar is even limited with regard to language form. Omitted from grammars are the idioms and metaphors of the target language. Whereas linguists might not recognize idioms as being relevant to grammar, they, as well as language teachers, have not refused to analyze them. Indeed, the title of Adam Makkai's masterful treatment of the subject--Idiom Structure in English (Mouton, 1972)--announces to the reader that idioms do have a structure. Any treatment of language--by theorists or pedagogues--would be drastically curtailed without some reference to idioms, even if they cannot be included in a grammar.

Yet another limitation of grammar is that it is text-dependent, i.e., it is based on a body of data, either explicit or imagined, that constitute possible utterances in a language. These utterances are disembodied, as if people generated them for no reason other than to produce perfectly well-formed sentences. The samples of target language utterances given in texts for instruction rarely, if ever, reflect the way people actually speak. Most importantly, these samples are not reflective of interactive speech.

I am inclined to agree with Victor Yngve (1982) who interprets the preoccupation of linguistics with grammar to be a step away from achieving its potential of scientifically studying how people communicate. In a way of thinking, good language learners turn into scientific linguists when they construct hypotheses about what they hear in the target language and then test these hypotheses through actual communication. The analogy probably ends there, however, since evidence exists that foreign language students, as well as children learning their first language, are most often unable to describe what they are doing in terms of an explicit grammar. H. W. Seliger (1983) conducted a study in which only nine out of fifty-five native and second-language respondents were able to give a rule for how they chose between the a and an form of the indefinite article in English. Seliger's conclusion was that no relationship exists between the ability to state a rule, correctly or incorrectly, and the ability to perform it correctly. Even if learners remember a rule accurately, there is no way to determine what it means for them. In a similar vein, Adam Makkai (personal communication, June 16, 1984) points out that Hungarian children are able to construct complex utterances in their native language by attaching a wide variety of affixes to word

roots. According to Makkai, there is no way that a three or four-year-old could analyze and understand the order of the prefix, the root, the factitive, the permissive, the conditional and the final 'I---Thee' portmanteau of Hungarian word-sentences like Kinevettethetnélek 'I could have you ridiculed.'

Students enrolled in foreign language classes at the University of Delaware who expressed an opinion on the subject had no clearer idea of grammar, even though they generally thought it was an important part of learning a language. One of the questions I asked them was: 'What does grammar mean to you?' Probably the best response I got to this question was the following: 'Grammar is a way to know that you have learned something about the language you are studying.' The function of grammar as an embodiment of the language was evident even in conversational classes where students coming from traditional lower-level courses sometimes expressed fear that they were not progressing in the absence of explicit grammar drills and exercises. These same students who were learning to engage in communicative discourse on a range of topics never worried about the subtle rules of conversational management that they were acquiring through the activities of the class. Instead, they missed the items of grammar that are the standard ones treated in textbooks, e.g., use of the subjunctive, choice of prepositions after certain verbs, and gender assignment in nouns.

Students who went on with the more traditional classes of instruction had, on average, a far better grasp of the explanations given to the usual grammatical matters. Yet, these students were often at a loss to create even the briefest utterances in the language or engage in the most basic of conversational exchanges. Most of those who received traditional instruction recognized their inability to communicate in the language but, curiously enough, they did not blame the teacher or the method of instruction. They blamed themselves, often accepting without question the scarlet letters that spell 'poor language learner.' Students enrolled in the innovative conversational courses, when they did badly, were more likely to blame the teacher or the lack of a text. As one put it: 'Tell a student that there is no book required for a course and the student becomes uneasy. Students feel that they must have a book filled with rules to go by and to rely on.'

Since we have both innovative and traditional teachers of foreign languages at the University, students are able to make comparisons in language-teaching

methodology. One student enrolled in a section using our new SI method expressed the fear that he had not learned the past subjunctive yet. When I asked him what the past subjunctive was, he could not give me an answer. He could only remark that his friend in the other, traditional section had been given the past subjunctive and so was evidently making greater progress. Discourse-based tests showed that this student was acquiring a conversational fluency with French. Yet this fact was not sufficient to offset his sense of inadequacy with the grammar of the language.

This observation led me to visit a class being taught by an instructor who prided himself on giving good grammatical coverage. On the day of my visit, the class was engaged in an original dialog requiring one student to play the part of a dinner hostess and another, that of a guest. The young woman playing the hostess attempted to encourage the other student who was the guest to eat a meal of unusual regional fare. She first used the word come which in Spanish is the familiar imperative form of the verb comer 'to eat.' On repeating the command, she shifted to the polite imperative coma which is also identical to the third person singular of the present subjunctive. As the conversation went on, she fluctuated between the two forms come and coma. In the question period that followed the dialog, the student asked the teacher which form she should have used. In giving his answer, the teacher launched into a thorough and well-organized presentation of imperative forms in all conjugation types of the Spanish verb. He carefully pointed out that in -er verbs the familiar command ending -e shifted to -a when it became a polite command. He went on to contrast this pattern with -ar verbs, in which the operation is reversed. During the teacher's lengthy presentation, I watched the student who had asked the question. She sat expressionless throughout the whole episode. When class ended and everyone filed out, I heard her mumble to a classmate, 'All I wanted to know was whether it was come or coma!'

In light of the type of grammatical questions initiated by students this reaction is not surprising. Students concentrate on specific items. They want to know the correct form to use in the context that is current or real to them. They appear not to be interested in generalizing rules. Teachers on the other hand often cannot resist the temptation to generalize. The Spanish instructor in the instance mentioned above was operating in a well-established tradition of grammar teaching. In his view, he was inducing the student

to broaden her knowledge of Spanish imperatives from the single, fortuitous use on her part of one pair of imperatives. What meaningful input he was providing to the learner is impossible to assess. My guess is that he managed to promote anxiety in her about the two forms and the rest of the related grammar.

It has been a long-standing tacit assumption in the foreign-language teaching profession that logical, well-ordered presentations are learned in that way--at least if the students are paying any attention at all to what the teacher is saying. In reality, the learning experience may be quite different. Students of foreign languages have two sources from which to draw. One is the language or languages they already know and the other is their natural ability to learn languages. Stephen Krashen (1981) has used the term 'grammatical monitor' to describe the learner's awareness of how something is being said in the target language. This monitor is triggered into action by error correction. Monitoring is a conscious activity and takes away from the student's efforts to concentrate on <u>what</u> is being said. Where the monitor is forced to operate on imperfect knowledge of the target language, it falls back on the knowledge of the other languages already acquired. Krashen goes on to differentiate learning from acquisition. While learning is a conscious activity, acquisition is a natural process shared by children learning their first language. Thus, acquisitional errors by foreign-language learners resemble those of children most noticeably in the lack of inflectional markings and invariable syntax.

Whether Krashen is correct or not, we cannot assume that the competence eventually achieved by the learner of a foreign language in any way resembles the presentation of grammar given by the teacher. It is my suspicion that grammatical awareness grows uniquely in each individual learner. That awareness is not tantamount, so it would appear, to the ability of a given student to produce the correct form of the target language in the proper context. Such an ability is of a greater magnitude than the ability to recite rules.

What, then, is the proper place of grammar in the foreign-language learning situation? There is good evidence that the focus of attention in planning out the curriculum could be profitably switched to other elements of language in use. Lantolf and Khanji (1982) have demonstrated that learners' mean length of utterances in conversational turns on topics of special interest to the speakers increased dramatically over that

of interview-type tasks where learners were called upon to monitor their speech more closely. DiLaura (1983) describes a highly successful training program in Spanish where the basic organizing element was the scenario. Rather than follow a syllabus of grammatical structures, students were given scenario themes which required separate groups to preprogram and eventually execute interventions in the target language. In scenario preparation, learners had to anticipate the reactions of their eventual conversational partners. Grammar explanation in both rehearsing the scenarios and in debriefing them was incidental to mapping out strategies and deciding how various interactive roles were to be played.

However, I do not believe that grammar should be totally excluded from the curriculum. In so far as it is an abstract set of rules helping students to be accurate in the target language, grammar cannot be discarded as nonrelevant to the learning process. What is apparently needed is a broader perspective of the speech act and its function in foreign-language learning. In accordance with Lantolf and Frawley (1983), the growth of competence in a new language can be interpreted as a progression from total object-regulation (with attendance to grammar as a prominent part of that stage) to self-regulation, when speakers finally succeed in making the language do what they want it to do in self-expression. Since learners have continuous access to object regulation, even at advanced levels of fluency, the best approach to grammar is to bring it out of the learners in whatever form is most suitable to them. Rather than force grammar on the learners through conscious and active drills or exercises, grammatical logbooks can be kept. These logbooks provide a place for each student to record his or her personal questions and observations about grammatical points. To offer some general guidance, the teacher may prepare a format for the logbook by setting up sections for phonology, vocabulary, syntax, morphology and so on. To assess the students' increasing awareness of the grammar of the target language, the teacher may also want to examine the logbooks periodically. The point is not to penalize the student for writing vague or imprecise rules about various grammatical points but rather to determine what progress is being made toward control of the points that are well-known areas of difficulty.

The logbook principle is being tried out in some classes at both the high school and the college level in Delaware. The results are still indefinite, but

teachers report to me that the logbooks have at least the result of leading students to think more creatively about grammar. Having something down on paper also helps to satisfy students' psychological need to objectify the language they are trying to learn.

Whatever form is eventually considered to be the most appropriate for handling grammar creatively in foreign language classrooms, it is clear that we cannot go on simply assuming that all grammar is learned according to a non-individualized, superimposed sequence of structural items. More importantly, we must seriously question the notion that programs of instruction in foreign languages should be organized primarily in terms of grammar, as we currently interpret it. A healthy collaboration of linguists and language teachers working with actual data taken from the formal setting of the classroom should produce a better understanding of what grammar means for individual learners and what grammatical processes--implicit as well as explicit--are the most conducive to learning foreign languages.

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SELF-DIRECTED LANGUAGE-LEARNING AS AN ALTERNATIVE TO THE CLASSROOM

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In 1979 a group of more than twenty adult English-speaking language-learners arrived in Guatemala City for an eleven-week intensive Spanish language-learning experience. Living in the households of Guatemalan families and guided by language-learning "coaches" (Brewster and Brewster:1980), each participant spent at least forty hours a week in self-directed language-learning (LL) activities, patterned on the LL strategies outlined in Brewster and Brewster (1977).

In five half-days of sessions, the participants were given introductions to (or in some cases, a review of) self-directed LL strategies, drills highlighting phonetic contrasts between Spanish and English, and "survival" phrases and "tool" phrases in Spanish to learn. During the other half-days of the introductory week, the participants were practicing LL techniques in the Spanish-speaking homes in which they were living, as well as making Spanish-speaking contacts in the community.

After the introductory week, participants determined their own daily schedules and activities, with a once-weekly check-in with a language-learning "coach." Each participant developed a neighborhood route consisting mainly of friendly shopkeepers, who in addition to the family members in the home where (s)he was living, served as an information and conversation resource pool for the language learner. The coaches encouraged each language learner to make a few additional contacts each day until a minimum pool of fifty people was established, and then walk his/her route each day, speaking briefly with as many as thirty of those people each time. Language learners were restricted to using public transportation, to attending Spanish language church services, and to reduced contacts with English speakers.

Participants had free access to Spanish textbooks, dictionaries, and other learning aids, but were encouraged to use these only for reference, and only as much as needed; the primary source of language information was the people on the language learner's route. Language learners we e encouraged not to elicit and/or write down more language data than they could remember; this was done to attempt to counterbalance any cultural bias towards the visual/written approach to language learning with an aural/oral dominance.

Each participant was encouraged to make note of situations where (s)he felt unable to communicate adequately in Spanish, and to make those situations the focus of a self-prepared language learning exercise; in that way, each language learner designed his or her own "curriculum," tailored to felt day-to-day language

learning needs.

At the end of ten and a half weeks, the language-learning progress of each participant was given a multi-phase evaluation consisting of four parts:

1) Each was asked to read carefully a description of his or her own Spanish proficiency in relation to that scale (each had also done this prior to arrival in Guatemala).

2) Each completed a word recognition/naming task which required writing English equivalents to Spanish words and English equivalents to Spanish words. The words on the lists were taken randomly from a list of the 2,500 most frequent words in Spanish.

3) Each was given a short written text to read aloud after practicing it as much as (s)he wanted beforehand. The spoken text was tape-recorded and critiqued for phonetic production.

4) Each was observed in an informal conversation with a native Spanish speaker and evaluated according to the skill level descriptions of the Foreign Service Institute Language Proficiency Scale.

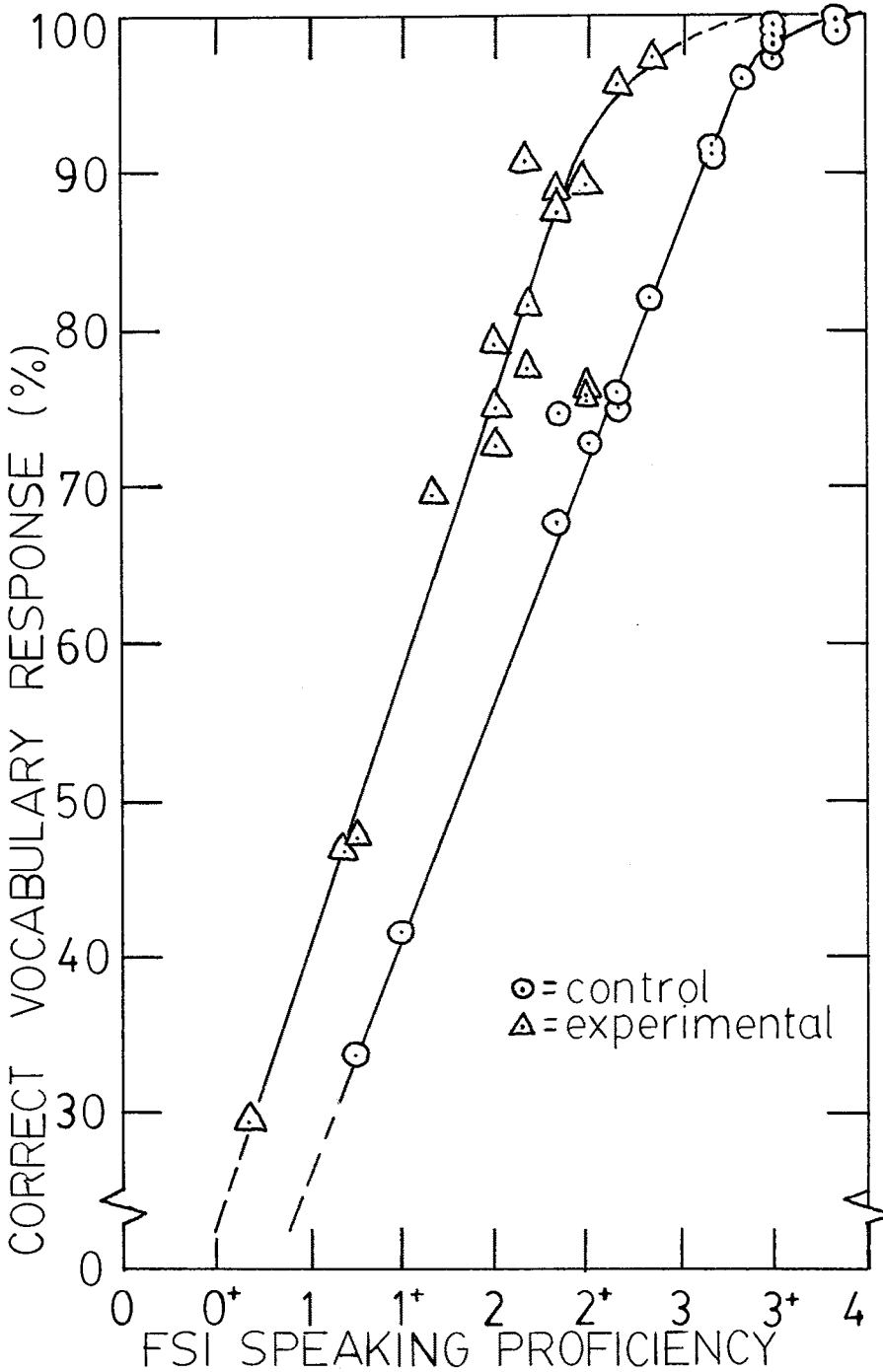
Parts (1) and (2) of this evaluation were also done with a control group of seventeen persons whose exclusive or primary language-learning experience in Spanish had been done in the context of a textbook-, classroom-, and language laboratory-oriented courses.

The resulting comparison of the performances of the two groups is shown in Figure 1. In each group there is a good correlation between performance on the word recognition task (vertical axis) and FSI conversation skill evaluation (horizontal axis), as evidenced by the near-linearity of the data for each group. Interestingly enough, even though the written nature of this part of the evaluation would tend to skew the result so as to favor the control group, the self-directed language learners scored approximately fifteen percentage points higher than the control group, seen in the clear separation of the two curves. This same dichotomy has been observed in the language-proficiency evaluations of nearly two hundred additional test subjects, using these same techniques (Echerd:forthcoming).

A detailed analysis and discussion of all of the implications of these data is beyond the scope and focus of this paper, but a few conclusions warrant comment:

1) Spanish (and by implication any other language) does not need to be "taught;" it can be learned by a self-directed language learner.

2) Self-directed language learners scored significantly higher than a control group in a vocabulary evaluation, which suggests superior conversation and communication proficiency for the self-directed group. This result suggests that a foreign-language teacher in a classroom situation could enhance language-learning performance by incorporating the teaching of self-directed language-learning techniques into the curriculum in addition to the specific language materials, and by encouraging students to use those techniques outside the language classroom.


100
90
80
70
60
50
40
30
0
CORRECT VOCABULARY RESPONSE (%)
0
0+
1
1+
2
2+
3
3+
4
FSI SPEAKING PROFICIENCY
⊙ = control
△ = experimental

3) The good correlation between vocabulary recognition and FSI skill levels evidenced in both the self-directed and control groups suggests that:

a) A language learner is an accurate judge of his/her own language-learning skill level.

b) A vocabulary-naming task can accurately reflect, in an indirect and abstract way, the overall language communication skill of a language learner.

c) An accurate, easy-to-administer, easy-to-score, objective language proficiency test could be devised, based on a language learner's self-evaluation and on his or her score on a vocabulary naming task.

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THE ROLE PLAYED BY PRIOR LINGUISTIC EXPERIENCE IN SECOND AND THIRD LANGUAGE LEARNING

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A central concern in foreign language learning research has been the influence of the first language on the acquisition and use of a second or subsequent language. Structural differences between languages are believed to be a cause of certain kinds of errors made by foreign language learners. According to the contrastive analysis hypothesis, interference from the native language, or negative transfer, accounts for some of the difficulties learners have in producing native-like target language, while similarities among languages help learners to master certain aspects of the target language more rapidly, a process known as positive transfer (Lado, 1964).

The contradictory nature of studies related to linguistic transfer has been discussed (e.g. García and Madrid, 1980). Lerea and Kohut (1961) compared the rate of learning of seven Hebrew characters by monolingual and bilingual children matched for age, sex, and intelligence. The bilinguals performed significantly better. Adult learners of Japanese who were bilingual as children attained higher speaking proficiency in the new language than those who were monolingual (Jacobsen and Imhoof, 1974). Jakobovits (1969) suggested that it is easier to learn a foreign language related to the learner's native language, if the learning environments are similar, because there is a possibility of more positive transfer. However, in his work on the recognition of cognates, Browne (1982) concluded that similarities between languages must be made explicit for students to benefit from the potential advantage. Similarly, Bialystok (1979) recommended that high-school and adult learners of French as a third language should be encouraged or trained to maximize the potential advantage of some previous knowledge of other languages. On Bialystok's test designed to elicit students' judgment of the grammaticality of sentences in French, knowledge of a third language facilitated performance on the task. Performance was only facilitated, however, for those learners who had reached a certain level of competence in French.

According to Weinreich (1954) when languages are unrelated, the potential area of interference is increased. Yet Ahukanna et al. (1981) concluded that "the potential for interference from semantically related items in other languages appears to be particularly strong" (p.286). These researchers also suggested that the potential for interference increases with the number of languages a student knows.

Thus, there seems to be some confusion about the extent of the role played by linguistic transfer in second and third language learning, and about the importance of the similarities between languages themselves and the environments in which the languages are learned. The present study discusses the role played by prior linguistic experience in learning the linguistic skills necessary for success in French as a second or third language. The achievement of monolingual English-speaking adults learning beginning French at college was compared with that of adults who had some prior knowledge of Spanish, a related language. In addition, the achievement of bilinguals who had learned Spanish reading and writing skills in a formal environment was compared with that of bilingual English-Spanish speakers who had acquired only speaking and understanding skills in Spanish in an informal environment.

The Study

On a home/school language background questionnaire 26 college students enrolled in a beginning French class indicated their knowledge of French, Spanish, or any other language. Ten students had no prior knowledge of any language except English. Six students indicated that they had been exposed to Spanish in an informal setting, that they had acquired some proficiency in speaking and understanding Spanish, but were unable to read or write the language. Ten students reported that they had learned Spanish for at least two years in a formal setting and that they had learned some reading and writing skills.

The 26 students received 45 hours of formal instruction in French from the same teacher, in the same classroom, but met at different times. The textbook Rendez-vous: An Invitation to French published by Random House (1982) was used and minimum requirements with respect to tests, class and homework assignments were the same for all students.

Following one semester of instruction in French 3 tests were administered to assess the students' proficiency in French vocabulary, grammar, and written composition:

1). The vocabulary test measured the students' knowledge of the meaning and gender of vocabulary items which had been introduced in the course. In the first part of the test the students were required to translate isolated French words. Twenty words had visual and conceptual cognates in English, 20 had visual and conceptual cognates in both English and Spanish, 20 had cognates in Spanish only, and 20 had cognates in neither language. In the second part of the test the students were required to supply the gender of 20 isolated words, 10 of which had been introduced in the course.

2). The grammar test measured the students' ability to recognize the grammatical accuracy of structures which had been introduced in the course. Twenty items were supplied in a multiple choice format, involving a stem sentence and three possible completions or three complete sentences, from which students were required to select the correct one. The items were designed to test students'

knowledge of the number and gender agreement of adjectives with nouns, word order, how negative sentences are formed, and their ability to recognize the correctly conjugated form of the verb. All incorrect structures had actually been produced by students learning French as a foreign language.

3). The written composition test measured the students' ability to communicate in writing using the vocabulary and grammatical structures which had been introduced in the course. The students were required to write a paragraph in French approximately 10 sentences long. The topic was provided with broad guidelines about what they might include. Errors in number-gender adjectival agreement, word order, formation of negative sentences, and subject-verb agreement were analyzed. The number of times structures were produced incorrectly was expressed as a percentage of the number of times the structure was attempted. Errors in vocabulary and the gender of nouns were analyzed in the same way.

The Results

The bilinguals, taken as a group, performed better on the vocabulary test than the monolinguals, and the difference in the students' mean scores was significant ($p < .1$). See Table I. However, the bilinguals who had learned some literacy skills in Spanish (biliterate bilinguals - BB) did not perform better on the vocabulary test than those who had no literacy skills in Spanish (monoliterate bilinguals - MB). See Table II.

When the mean scores on the grammar test were compared, the bilinguals, taken as a group, performed significantly better than the monolinguals ($p < .05$). See Table I. In addition, the biliterate bilinguals who had learned Spanish in a formal setting performed significantly better than the monoliterate bilinguals who had acquired Spanish in an informal setting ($p < .05$). See Table II.

Error patterns were quite different for monolinguals and the 2 types of bilinguals, although the number of times the structures were attempted was always highest for the biliterate bilinguals and lowest for the monoliterate bilinguals. See Table III. Biliterate bilinguals consistently produced the lowest percentage of errors in all structures analyzed. Monoliterate bilinguals produced lower percentages of errors than monolinguals in non-standard verb phrases (e.g. 'Je <u>suis</u> très faim') and in non-French vocabulary (e.g.'Je n'aime pas de <u>foir</u>'), but in every other structure analyzed they produced the highest percentages of errors.

Discussion

The higher scores for bilinguals on the vocabulary test appear to indicate that prior knowledge of Spanish helped students to remember the meaning and gender of French words which had been introduced in the semester course, half of which had visual and conceptual cognates in Spanish (e.g. French 'une porte' (a door) - Spanish 'una puerta'; French 'allemand' (German) - Spanish 'alemán'). The scores for the 2 types of bilinguals were not

Table I
% Scores on the Vocabulary and Grammar Tests
for Bilinguals and Monolinguals

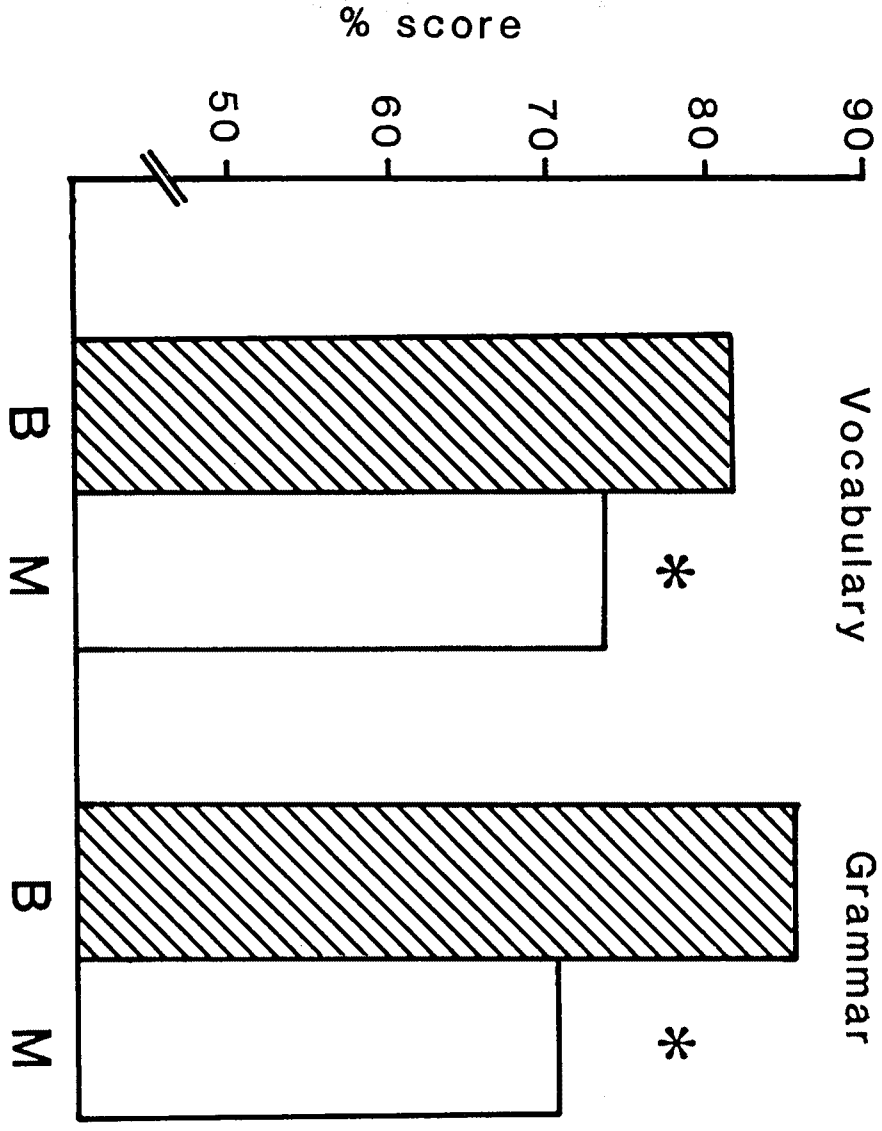

Table II
% Scores on the Vocabulary and Grammar Tests for
Biliterate and Monoliterate Bilinguals

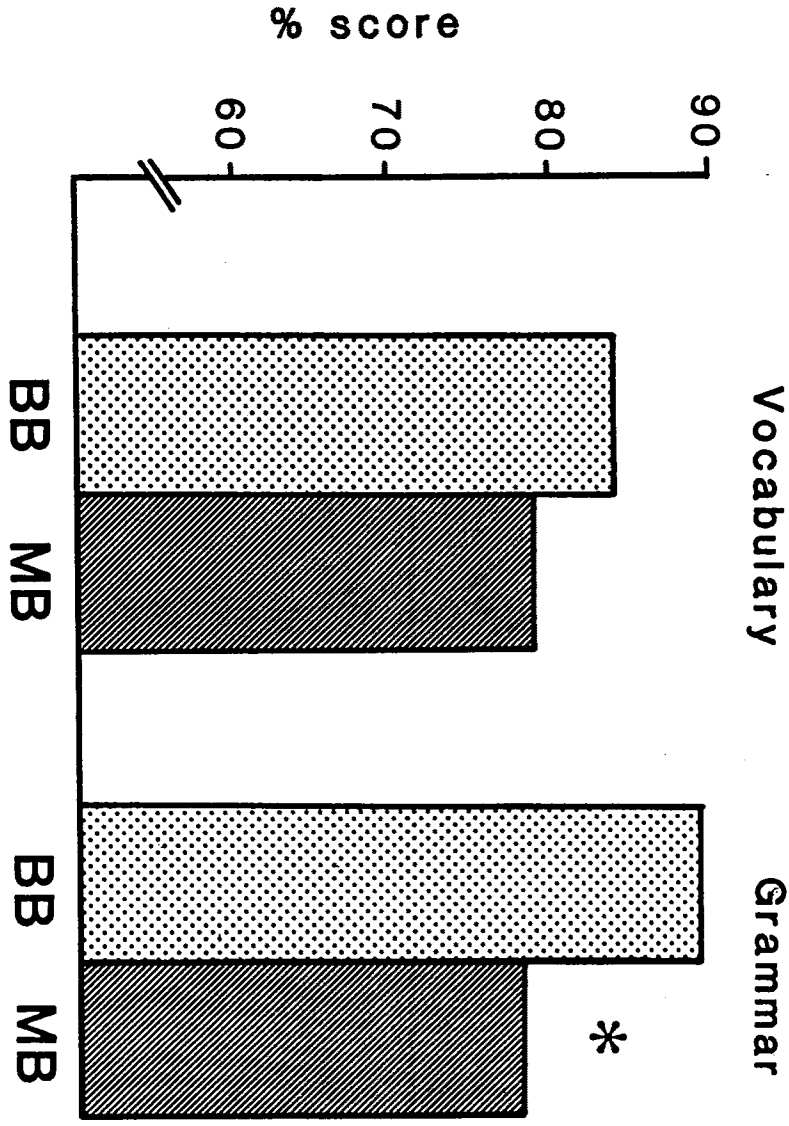

Table III

Error Percentages in Syntax and Lexicon for
Monolinguals, Biliterate and Monoliterate Bilinguals

Error Type	Monolinguals	Biliterate Bilinguals	Monoliterate Bilinguals
Syntax:			
Adjectival agreement	33 (2)*	15 (1)	33 (3)
Non-standard verb phrases	26 (2)	8 (1)	13 (3)
Formation of negative sentences	20 (2)	0 (1)	50 (3)
Subject-verb agreement	13 (2)	12 (1)	18 (3)
Word order	3 (2)	2 (1)	10 (3)
Lexicon:			
Non-French nouns, adjectives, or verbs	7 (2)	2 (1)	6 (3)
Gender of nouns	10 (1)	9 (2)	13 (3)

* Number in parenthesis indicates the rating for the number of times the structure was produced

significantly different, indicating that a reading knowledge of Spanish did not appear to be necessary for the students to recognize the similarity between French and Spanish.

A separate analysis of the students' performance on the second part of the test dealing with the gender of French nouns revealed that prior knowledge of Spanish did not help students remember the gender of French words which had been introduced in the course or to supply the gender of words not previously introduced. Positive transfer did not even appear to take place for 3 of the bilingual students who had received part of their education in a Spanish speaking country and who incorrectly identified the gender of many of the French nouns (e.g. French 'la bibliothèque' (library) - Spanish 'la biblioteca').

When this experiment was replicated using only students who had learned or acquired Spanish in south Texas, the difference in scores on the vocabulary test between monolingual and bilingual students was not significant. This finding may be due to the fact that not all the students with a knowledge of Spanish necessarily knew or recognized the standard Spanish cognate (e.g. French 'légume' (vegetable) - Spanish 'legumbre' for which a local variation 'vegetale' is more common). As Browne (1982) indicated, it may be necessary to make similarities between languages explicit in order for some students to make use of the potential advantage of cognates.

Prior knowledge of Spanish was apparently an advantage on the grammar test and facilitated the correct selection of answers for the multiple-choice questions (e.g. Les portes sont a). noires (correct answer); b). noirs; c). noir: Nous écoutons la radio parce que nous a). aimons la musique (correct answer); b). aime la musique c). aimes la musique). Knowledge of the existence of adjectival agreement and subject-verb agreement in Spanish may have been exploited to help the students perform well on this linguistic task. The biliterate bilinguals appear to have had an additional advantage over the monoliterate bilinguals due to their formal study of the Spanish language, which may have helped them to develop a grammatical sensitivity superior to those students who had acquired Spanish through informal exposure. The latter had probably not developed the linguistic skills necessary for the conscious linguistic processing involved in a formal language-learning classroom. If this is so, it would lend support to Krashen's (1981) suggestion that conscious linguistic knowledge is independent of the linguistic system that is built up subconsciously as a learner acquires a second language. In other words, bilinguals' knowledge of Spanish was only useful in learning French as a third language in a formal environment if they possessed a conscious meta-awareness of the language and/or of language in general.

When students were required to write a composition in French their attention was focused on communicating a message rather than on producing correct linguistic forms. Due to the pressure of time restraints students may not edit what they have written as efficiently as they do when completing a less complex

task such as the multiple-choice grammar test. Analysis of the errors produced appeared to indicate that biliterate bilinguals were able to make effective comparisons between 2 language systems which may enhance their ability to make inferences about the target language. Not only did they consistently attempt the different structures more frequently than the other 2 groups of students but they also produced each of the structures with the lowest percentage of errors. On this test students had to pay attention to details such as spelling (including accents), punctuation, and style in addition to manipulating the vocabulary and structures which had been introduced in the course. Bilingual students' informal exposure to Spanish did not appear to have helped them develop an awareness of language which could be used to avoid errors on a communicative task. This is an important finding in view of the change in classroom emphasis from form and grammar-based approaches to function and communicative approaches.

Summary and Conclusions

Bilingual English/Spanish speakers learning French as a third language in a formal environment appear to have some advantage over monolingual English speakers learning French as a second language. This advantage is seen in students' performance on tests of grammar and vocabulary after one semester of instruction. The bilinguals taken as a group also produce lower percentages of errors in written compositions than monolinguals. These findings suggest that where languages are semantically related positive transfer plays a part in the foreign language classroom. They do not support findings reported by Ahukanna et al. (1981) who suggest that the potential for interference, or negative transfer, increases when languages are semantically related and with the number of languages a student knows.

Biliterate bilinguals who have studied Spanish in a formal environment appear to have an additional advantage which is seen in their performance on the grammar test and the percentage of errors they produce in a written composition. This suggests that being exposed to 2 languages may not be enough to increase a student's linguistic awareness. Students may need to be trained to maximize the potential advantage of the similarities between languages, and instruction in reading and writing the related language appears to help develop the linguistic skills necessary for success in learning a foreign language at college.

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V

HISTORY OF LINGUISTICS

REDISCOVERING CARLO DENINA (1731-1813)

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Carlo Denina's name is not to be found in any of the general histories of linguistics, in any history of linguistics dealing specifically with the period in which he lived or in histories of Romance linguistics. As far as I know, Denina has not been referred to in a work on linguistics or the history of linguistics since 1904 when he was mentioned briefly in the first volume of Gröber's Grundriss[1]. Yet Denina's name is to be found in many general bibliographical reference works. The great Encyclopedia italiana of the 1930's had a half-page article on him; he is in the Bompiani Dizionario della letteratura (1956); and there is still half a column about him in the Grande dizionario enciclopedico (1968). One of the 19th-century French biographical dictionaries (the Nouvelle biographie générale, 1853-66) had three double-column pages about him and he still gets a few lines in some of the modern French reference works. Even the Encycl. Brit. had a paragraph about Denina through the 14th edition. (German reference works, on the other hand, omit Denina completely, a strange omission in view of the importance of Germany in Denina's life and work.)

What appears to be the paradox of linguist's being known to encyclopedia editors but not to historians of linguistics is not really so, for Denina appears in the aforementioned works as a historian and literary critic. His writings on language are not mentioned.

My own acquaintance with Denina came about quite indirectly and at a time when I had no special interest in the history of linguistics. Twenty years ago, when I was trying to track down everything that had ever been said about the pronunciation of Tuscan Italian, I found in a paper written about 100 years ago a reference to Denina's Clef des langues. The Clef des langues contained nothing useful on Tuscan pronunciation, but I was surprised to find that it contained a lot of things about I.E. and Romance that I had thought were discovered much later.

According to what I think I may call the standard or received version of the history of linguistics in the West, transmitted through Holgar Pedersen's Linguistic Science in the 19th Century, the first chapter of Bloomfield's Language, and John T. Waterman's Perspectives in Linguistics, nothing written about language before the second decade of the 19th century is worth much consideration. The Greeks did fairly well at describing their own language, but the Romans made no further progress, merely applying Greek grammar uncritically to Latin, and the

Middle Ages degenerated into useless philosophical speculation. Renaissance scholars only revived Ancient learning and forced the description of new languages into the same old grammatical mold. Then came another retrograde period of philosophical orientation toward language, epitomized in the Grammaire générale et raisonnée of Port Royal. Only with the introduction of the Sanskrit grammatical tradition into Europe and with the I.E. comparativist publications of Bopp in 1816 and Rask in 1818 did the scientific study of language begin.

The received history of Romance linguistics is even shorter. In the words of Iorgu Iordan, whose Introduction to Romance linguistics has had somewhat the same influence in the education of Romance linguists as Pedersen's book among general and I.E. linguists, "All Romanists agree that Romance linguistics was founded by Friedrich Diez, who, building on the foundations laid by Bopp and Grimm....published in 1836-43 the three volumes of his Grammatik der romanischen Sprachen."

Obviously there were writings on linguistics before Bopp and on Romance languages before Diez; but Pedersen disposes of everything from "Pagan Antiquitiy" to the end of the 18th century in the first eleven pages of his 350-page book; and Iordan gets to Diez after only eight pages of preamble.

As everyone is aware, interest in the history of linguistics has increased tremendously in recent years, but a disproportionate amount of attention (so it seems to me) has been given to the Chomskian attempt to stand the received version on its head, and consequently much is being said about the Middle Ages and the 17th century while there is a relative neglect of the Renaissance (which I believe was linguistically more advanced than is generally thought) and of the period around the turn of the 19th century. Nevertheless, some scholars have given attention to the 18th and 19th centuries and have shown that at least some ideas still held in the 20th century were already current long before Bopp, Rask, and Grimm; and that, on the other hand, the early 19th-century comparativists still held some views that we have long considered completely false and even absurd (like the idea that linguistic change is decay, that there are superior and inferior types of language structure, that superior languages are spoken by superior races).

For the history of Romance linguistics one could go back to Claudio Tolomei, whose work Robert Hall has commended, to B. Varchi, to Juan de Valdés, and to many other writers of the 16th century (or even of the end of the 15th century) whose work is certainly deserving of consideration.[2] But here we are interested in the period just preceding, Bopp, Rask, Grimm, Diez.

In a paper published just a few years ago Jörn Albrecht (1976) discussed the linguistic writings of the 18th-century French historian Pierre-Nicholas Bonamy (1694-1770), who, in Albrecht's opinion, can well be considered a Romanist ante litteram and a precursor of historico-comparative linguistics in general. Bonamy's views on the nature and development of Spoken Latin and its relation to Classical Latin, on the relation of the

standard Romance languages to non-standard dialects did not differ essentially from those held today; and, most interesting in the opinion of Albrecht, Bonamy proposed the reconstruction of Latin words not attested in Latin documents but presupposed by the existence of Romance words. C.L. Fernow, a north German painter and art historian who transformed himself into an Italianist when he went to Rome to study art, was ignored by linguists from 1904 (Gröber again) until 1972; yet Fernow's Italianische Sprachlehre, published when Diez was ten years old, was Diez's chief source for the description of standard Italian in his Grammatik der romanischen Sprachen, and Fernow's study of Italian dialects was his source for Italian dialectology.[3] No doubt much other interesting and once-important linguistic scholarship from this period will be brought back to the light of day if interest in the history of linguistics continues at its present level.

The life of Carlo Denina was a long one, and for a scholar, a fairly eventful one. Like the life of the previously mentioned Fernow, who rose from a stable boy to member of the famous Weimar Circle of Goethe and Schiller, it shows that social mobility was not impossible for the really gifted and industrious in 18th-century Europe. (It also shows, by the way, how oppressive ecclesiastical censorship could be at this time.)

Denina was born of a humble family in 1731 in Revello, a small town in Piemonte, the westernmost region of present-day Italy, which was then the principal part of the so-called Kingdom of Sardinia. At 15 he entered the priesthood, probably as a way of obtaining education. At the age of 17 he received a scholarship to study at the University of Turin, and in 1753, when he was 21, he became a teacher of humanities in another Piedmontese town, Pinerolo. There he got into trouble with the Jesuits because a school play written by him suggested that schools were better off under the direction of public magistrates or the secular clergy than under monastic direction. Denina was dismissed. He went to Milano, where three years later he obtained a doctorate in theology. He was allowed to teach again in the royal school system and obtained a post as teacher of rhetorique and Greek in a high school in Turin. In 1760 (he was now 29) he published a little book called Delle vicende della letteratura, a sort of general survey of European literature, which was very successful. He made several trips through Italy but chiefly spent his time working on a history, Delle rivoluzioni d'Italia, which came out in three quarto volumes between 1769 and 1771. The Vicende della letteratura had by this time been translated into French and English, and the Rivoluzioni d'Italia appeared in French translation from 1771-75. This work earned him a chair at the University of Turin, but it also earned him more enemies. In it he had attributed the ills of Italy to the irresponsibility of the upper classes and the excessive number of unproductive monks and priests.

In 1777 Denina left a manuscript, Dell' Impiego delle persone, with a Florentine publisher, who printed it—after clearing it with both ecclesiastical and civil censors in Florence. But Piedmontese law prohibited the publication of any work by a Piedmontese citizen without prior approval of the censors of Turin. The entire edition was confiscated and destroyed, Denina was required to pay the costs of printing, was deprived of his chair and exiled to Vercelli. The influence of a friend who was now archbishop of Turin eventually obtained for him permission to return to the capital but not to his professorship. In 1782, soon after the publication of his four-volume Istoria politica e letteraria della Grecia, he was invited to the court of Friedrich II of Prussia to assume the post of Royal Librarian. Although it is said that Denina did not get on really well with Friedrich, he remained in Germany until 1804, eight years after the death of Friedrich, and wrote books on Friedrich's reign and on the history of German literature—in French, of course. In 1804 Denina, now 73 years old, met Napoleon in Mainz and accepted his invitation to become Imperial Librarian in Paris, where he lived until his death in 1813, at the age of 82, having published a six-volume Istoria dell'Italia Occidentale in 1809 and having written supplements to new editions of some of his earlier works (like his Delle vicende della letteratura, which grew from one volume in 1760 to four volumes in 1811). Altogether Denina's bibliography comprises some 30 major titles totalling about 56 volumes. Several of these went through various editions and some were translated into French, English, and German.

Obviously a man who wrote so much on such various subjects cannot, even in an 82-year lifetime, have obtained all of his material from the study of primary sources nor can all of what he said be original. His catalogue of German authors (which I have not seen) is said to be made up almost entirely of other people's material. In the very short chapter on Spanish literature in Delle vicende della letteratura he admits he doesn't know Spanish literature at first hand and he quotes at length from a Spanish critic whom he does not name. Nevertheless, Denina's production is impressive, even astonishing.

As for the Clef des langues, it was one of the works of Denina's old age, published in 1804 and dedicated to Napoleon. (No doubt the dedication had something to do with his being invited to Paris that same year.) Denina had been made a member of the Royal Academy upon his arrival in Prussia, and over the years he had presented many papers on linguistic topics. The Clef is largely an elaboration and synthesis of those papers. Although it is Denina's only book (but it is three volumes totalling nearly 1200 pages) on language, it is clear that his interest in languages, at least from a practical viewpoint, was long-standing. In his youth he had taught himself French with the help of a Swiss army officer; he had, of course, learned Italian (which is quite a different language from Denina's

native Piedmontese), and Latin; and he had been a professor of Greek (and had written a history of Greek literature). He seems to have known a good deal about English and German, and he knew at least something about Spanish, Portuguese, Hebrew, Polish, Czech, and Russian. Both the title ('key') and the preface to the first volume indicate that the purpose of the book is to facilitate the learning of languages, specifically, the Romance languages and German and English (it is surprising to find that already at this time Denina remarks that English is the most widely used second language after French); but in reality, the Clef is chiefly a theoretical work on language giving special attention to the Romance languages.

By a careful selection of quotations one could probably make Denina appear either surprisingly astute or remarkably obtuse, for indeed his book contains both things that are surprisingly good and things that are surprisingly bad.

The book gets off to a bad start by presenting (with some scepticism but without refutation) the then-current theory of the origin of language which claimed that certain syllables were common to all languages and to the speech of infants and were therefore natural to human beings. Primitive speech is said to have consisted of a few hundred monosyllables (which at first had some sort of natural connection with their meanings), but these came to be used figuratively, and were combined to modify meanings thus building longer words, etc.

This mercifully short section (1.1-6) is followed by an equally bad one (1.7-52) on sounds and letters. Claiming that he is following the system of the grammaires raisonnées, Denina says that the 19 consonants (i.e. the consonant letters of the Roman alphabet) can be put into four classes: labial, guttural, dental, and lingual. "Ainsi elles se réduisent à ces quatre, B, C, D, L, puisque toutes les autres, ayant une affinité, une ressemblance connue avec une de ces quatre, peuvent être remplacées par celles-ci." The gutturals, which of course include k and g, "sont ainsi nommées parce qu'elles sortent de la gorge." D, t, and z are all dentals because they come from the teeth, but l, n, r, and s, are linguals because they are formed by the tongue.

Not only is Denina's phonetics primitive, but he makes no distinction between sounds and letters considering some letters to be sames whether they represent the same or quite different sounds. For instance, in discussing the 'permutation' of consonants and giving examples of the interchange of k, g, i, he cites not only examples like French fruit and fait from fructu and factu for [k] → [i] but also singe [sɛ̃ž] from simia and sauge [sož] from salvia as examples of [i] → [g].[4] At some other point he considers the Portuguese and Neapolitan developments of Latin pl- to be alike because in both languages the result is ch; but as Denina himself surely knew, the Portuguese sound is [š] and the Neapolitan sound is [kj], not the same result at all.

At this point one might well be ready to toss Denina's book aside and consign its author to linguistic oblivion along with the infamous Goropius Becanus, who derived all the world's languages from Dutch, especially if one is acquainted with the work of excellent phoneticians like Giorgio Bartoli and Siôn Dafydd Rhys, who more than 200 years earlier had given excellent articulatory descriptions of sounds, had distinguished clearly between phonology and orthography and had even devised phonetic alphabets (cf. Izzo 1982). But both in his vain search for the origin of language in a small number of mono-syllables that supposedly at first had an inherent connection with their meaning and in his bad phonetics and confusion of sounds and letters Denina is simply on par with his illustrious successors, the presumed founders of scientific linguistics. Mounin (1967) claims that Bopp's chief interest in comparative grammar was to find those primary monosyllabic roots which he and others supposed the Ursprache was composed of and whose relation to their meaning was non-arbitrary; and as late as 1840 he still seemed to have this view. As for phonetics, even the admiring Pedersen speaks (1931:303) of the "atrocities" of Grimm, who, e.g., claimed in 1822 that there were eight sounds in the word Schrift;[5] and all the comparativists spoke regularly about changes of letters and did without phonetic symbols until the second half of the 19th century, when phonetics finally became a part of linguistics (again).

But Denina deserves attention not merely because he can be excused for deficiencies that were still present in his successors (there is of course no merit in that!) but because he anticipated some of their advances.

Denina soundly rejects Goropius's Dutch-origin thesis and also rejects the much more popular idea that European languages came from Hebrew. Instead he proposes something very near the I.E. hypothesis; he realizes that living languages change constantly even if not subject to outside influences; he has a clear understanding of the historical relationships between standard languages and dialects; most of the time he operates with assumption of regular sound change; and he deals very competently with a number of specific problems in the development of the Romance languages as well as with the general problem of their origin and diversification.

As for Indo-European, Denina thinks (but he did not invent the idea—Metcalf 1974 has shown that it existed much earlier) that Greek, Latin, Slavonic, Germanic and Celtic—and also Persian and Sanskrit—all descend from Scythian, which supposedly spread from the Caspian area in pre-historic times. Hebrew is not directly in this line of descent, if in fact it is related at all; but it is a sister of ancient Phoenician. Denina says rather little about Persian and Sanskrit, ostensibly because the purpose of his book is to aid the learning of the principal languages of Europe but probably because he didn't know very much about them. Nor is what he says about the other languages always correct. For example, one is less impressed

by his inclusion of Celtic when one finds that he considers Celtic and Germanic the same and tries to prove it with a list of words that a certain M. le Brigant had published as Celtic but are actually German. More forgiveable is his assumption that the Gothic preserved in the Wulfillas' Bible translation was the direct ancestor of modern German and English. Here are some passages (in my translation) expressing his view: "Junius, Vossius, and Boxhorniure have all neglected the Slavonic languages, i.e. Bohemian, Polish and Russian, which although at first glance appear extremely different from Greek, Latin and Germanic, never-the-less have a clear relationship to them." (1.125) And: "I don't know how the Asiatic Barbarians [i.e. the Scythians] may have said the word which in Greek is pyr; but we see that pyr has become feur in German and fire in English.... But another mono-syllable which also meant fire in Asia spread into eastern Europe and replaced the word pyr; Sanskrit akni is ogien in Slavonic and ignis in Latin. The daughter languages of Latin have replaced it with focus taking the container for the content." (1.xxvii) From the preface to volume II (which no longer talks about the practical value of the book but about the interrelationship of history and language): "Ancient history, in spite of the fables that are mixed in with it, shows us that the human species has propagated itself from the East to the West, and that it is from Asia that the first men came to Europe. That fact explains the relationship that we find between the Eastern languages, Persian and Indian, and the languages of the Northwest of Europe." (2.ii-iii)

The section called "Observations on dialects" begins, (2.30), "The dialects of different provinces of a large country are not offshoots of the language they belong to but rather are its brothers, for they existed when the language that one supposes they issued from was itself formed; and they were born from the same language as the one that later became the dominant language of the country." As for why the speech of one region rather than another becomes the language, he says it is because of cultural superiority, political and economic power and geographic position. (2.39) He says nothing about inherent superiority or purity of the language. On the contrary he insists (e.g. 2.37) that dialects that have not attained the status of official languages are just as complete and "rich" as those that have.

As for regular sound correspondences, Denina does not attempt to use them to prove relatedness of different languages and in fact in his few etymologies involving Slavic, Persian, or Sanskrit he merely invokes his rules of affinity among letters, according to which, for example, any labial may replace any other. But in his Romance etymologies especially, and in his Germanic etymologies to some extent, he emphasizes regular correspondences and always justifies derivations that violate them. For example, in attempting (mistakenly) to derive Italian chiedere from Latin petere, he says that piedere was to be expected, but since the second and third person singular present-tense forms piede and

piedi would have been homonymous with the Tuscan words for foot and feet, Tuscan must have replaced piedere with a form borrowed either from Neapolitan or Calabrian, where p normally changed to ch before yod. Denina's statements (1.27 and 1.31) about Castilian f are particularly interesting because they take into account the position of the sound in the word, the limitation of the change to a particular time and region, and exceptions to the change explicable by learned or dialectal borrowing. Other passages also suggest that sound changes occur only at particular times, as, for example, that statement that in Tuscan l after an initial stop becomes i in Germanic words like bianco as well as in Latin words like chiamare (as if this were not to be expected). Unfortunately the assumption that specific changes occur at specific times is hard to reconcile with Denina's belief that permanent factors like inborn racial tendencies and climate were among the causes of the differentiation of languages.

Denina's treatment of some of the grammatical developments of Romance seems to show that, in this book at least, he sometimes went directly to the documents. With regard to the origin of Romance perfects consisting of habere and esse + past participle he wrote (2.18), "The learned and celebrated M. Adelung has supported the view that the use of the auxiliary verb was introduced by the Goths, Vandals, Lombards and other peoples from the north, and he has even tried to make it a merit of the German nation, as if it had thereby rendered a service to the Romance languages by furnishing them with a means of perfection which they lacked. Yet it is certain that in the time of Caesar and Cicero, even in the time of Plautus, the Romans were using those verbs. One can find in Plautus satis jam dictum habeo for satis jam dixi. In Caesar effectum habere instead of efficisse. Cicero writing to his own son says, Quod me hortaris, ut absolvam, jam habeo absolutum instead of jam absolvi." And so on through a half dozen additional examples.

Denina's explanation (2.17) of the universal first plural present tense Italian verb ending -iamo is also the one we still find in all the handbooks: "The ending -mus of the first person plural was changed to -mo: amabámus, audibámus became amavámo, udivámo, etc. The present tense ending was long preserved as it was in the mother language and one said avemo, vedemo, udimo. These forms are still in use, and Petrarch sometimes employed them, but gradually they were replaced by -iamo, which was taken from subjunctives like videamus, audiamus."

Like the auxiliaries, the Romance articles had been attributed by some to the Germanic influence. Denina derives them from the Latin demonstrative ille with approximately the same explanations we use today. He even accounts (2.13) for French du and au.

I should like to close by pointing out that in one aspect especially Denina was, from our point of view, far in advance of his more renowned successors the I.E. comparativists (but not in advance of many Renaissance linguists like Varchi, Gelli, and

Speroni). Bopp, Grimm, Schlegel, Schleicher all believed that linguistic development was linguistic decline or decay, that Proto-Indo-European was a more nearly perfect language than any of its descendents, that inflecting languages were superior to agglutinating languages and far superior to isolating languages. Denina insisted that language change is merely change, neither improvement nor decay, and he suggested that any language that one does not know is likely to strike one as barbarous, even if the language in question is supposedly a refined and polished one like French.

Denina's Clef des langues is long, repetitious, sometimes tiresome and occasionally absurd; but it is also extremely learned, often insightful, and sometimes surprisingly modern. It seems to me that it deserves to be brought back to light to help us form a better notion of the state of linguistic knowledge a few decades before the alleged birthdate of scientific linguistics.

NOTES

[1] It turns out that my title is somewhat inappropriate and my emphasis on the obscurity of Denina perhaps a bit out of date. When I submitted my title and began the paper I was unaware of Marazzini 1983. I am grateful to E.F. Koerner for bringing it to my attention.

[2] Cf. Hall 1936, 1939, Izzo 1976a.

[3] Cf. Izzo 1976b, Thun 1976.

[4] I probably should not put phonetic brackets around k, i, and g; for, as already mentioned, Denina does not distinguish between letters and sounds.

[5] "We find the minimum of phonetic sense in Jacob Grimm, who even in the second edition of his Deutsche Grammatik could say, among other atrocities, that eight sounds were expressed by seven characters in the German word Schrift: he considers f=ph, and reckons s, c, h, r, i, p, h, t."

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ON WRITING THE HISTORY OF AMERICAN LINGUISTICS

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0.0 *Preliminaries*

0.1 At the 1978 LACUS Forum, Dennis Peacock (1979) challenged us to engage in researching and writing the history of linguistics, especially that of the second quarter of our century. Yet it appears fair to assume that Peacock was interested in having the third quarter treated as well. Writing in 1978, he could not have been aware of the fact that someone was already busy doing just that. The resulting book (Newmeyer 1980) has been hailed in certain quarters as the definitive story of "wie es eigentlich gewesen" (Ranke). Closer scrutiny of Newmeyer's account by Murray (1981) and myself (Koerner 1983), however, has revealed that it is far from adequate in its depiction of American linguistics in general, and transformational grammar and its origin and development in particular. It appears, therefore, that we are still far from having an adequate picture of the evolution of structural, including transformational, linguistics in North America between 1925 and 1965, i.e., Sapir's "Sound Patterns" and Chomsky's *Aspects*.

There may be a number of reasons for this state of affairs. Peacock (1979:538) himself conceded: "... if the definitive history of American linguistics appears soon enough, I can abandon what I fear is a nearly hopeless task; in truth, I would much rather read such a history than write it." But lack of intellectual courage or *Sitzfleisch* does not seem the sole source of Peacock's despair; without doubt, the large number of participants in the 'linguistic enterprise' since the mid-fifties, the complexity of academic and social affairs in general, the entanglement of the discipline with seemingly external, including economic and political, expediencies, and various other factors of a sociological and even ideological nature have made the job of investigating and eventually presenting the history of linguistic theories very difficult indeed. The present paper offers no easy solution to the problem.

0.2 Although it does no longer appear necessary to justify working in the History of Linguistics, as the importance of the subject for linguistics itself has become more widely recognized than ten or more years ago, a couple of reasons should perhaps be given why work in the history of American linguistics seems to be called for.

There have been at least since 1962, on-going attempts to write just this history, it appears. More correctly, of course, these activities have emanated from particular quarters and have tended to revise rather than simply put on record the development of lin-

guistics in North America. A number of these stories have been quite successful, to the extent that unsuspecting scholars lacking first-hand information, but eager to impress on others that they know the history of 'modern linguistics', have accepted fables concocted at MIT as historical fact, e.g., Chomsky's frequently reiterated claim that, in the early phase of generative-transformational work, he had difficulties in getting his papers published, a claim effectively disproven by Murray (1980) in a well-researched article.

I suspect - though I have no direct evidence for it - that Thomas Kuhn's *The Structure of Scientific Revolutions* of 1962 played a significant role in the way the so-called revolution in linguistics was brought about. As I have tried to show in an earlier paper (Koerner 1983), there are good reasons to believe that Kuhn's suggestions about paradigm changes provided Chomsky, Halle, and their associates with the recipe to impress on (especially young) contemporaries that a revolution did indeed occur in linguistic theory. That this 'revolution' was more of a rhetorical than a scientific kind was suspected as early as 1963 by Paul Garvin, when he quoted the following passage from a sociologist's paper (Weaver 1960:86; Garvin 1963:673):

> My thesis is that in making this decision [at MIT this meant the creation of an atmosphere of revolutionary fervor: KK] they were acting not as scientists, but as rhetoricians, because they were trying to capitalize on a prestige [that MIT has had for many decades prior to the 'Chomskyan revolution': KK] and share in an approbation, in disregard of the nature of the subject they were supposed to be dealing with.

The present paper does not permit me to elaborate on this subject. It appears to me a very important task, for both the 'whence and whither of linguistics' (to refer to Robert Hall's inaugural lecture), that we counter the whiggish type of history writing, this manner of using history for the control of the present and, if possible, the future, and to make especially the younger generation of linguists aware of *what really happened* before those stories become history.

0.3 Before addressing the points I want to make in the present statement, let me add that by 'American Linguistics' I mean 'general linguistics' and 'linguistic theory' in America, the tradition largely established by Bloomfield, and to a much more limited extent by Sapir, for example.

The Americanist tradition associated with Boas and his followers, such as Kroeber, Sapir, Hymes, and others, has been omitted here, though it should be clear that an adequate History of American Linguistics would have to cover this rich tradition as well, as Hymes & Fought (1975) have done. (See also Hymes 1983.)

In other words, the present paper concentrates on the relationship between (especially the early) Chomsky and his collaborators and the so-called Bloomfieldian descriptivists and their work.

1.0 *Tasks for the History of American Linguistics*

The subject of my paper, then, will be to suggest ways by which we may arrive at a more adequate history of general linguistic theory in North America. To be sure, the field of linguistics itself has become a very complex one; the number of participants in the subject has increased tremendously during the past 25 years (cf. the annual membership list issued by the Linguistic Society of America, for example), especially during the 1960s and early 1970s. It has become more difficult nowadays to identify individuals with particular schools of thought, and it may happen that some who actually did their doctorate with Chomsky now deny that they are in any way connected with the transformational-generative framework.[1] Perceptions change and orientations may change too, for a variety of reasons and motives.

1.1 The first task appears to be to identify what during a given period of time constituted the various currents, what was 'mainstream' and what were the competing 'paradigms'. In doing so, the historian of linguistics will have to try not to get bogged down by the difficulties referred to in the preceding paragraph but look instead for the basic assumptions that underlie the theoretical pronouncements of one linguist or another in order to put him into one category or another. Thus, I would include among the so-called generative grammarians those involved with what is called 'Montague Grammar' and 'Relational Grammar'. As a matter of fact, most of those involved in these theories are concerned with revisions and extensions of transformational grammar and did the Ph.D. at MIT or one of its branch plants (e.g., U Mass at Amherst, UCLA, Brandeis, and others). They all share the view that language can be studied adequately on a formal and abstract level and that actual knowledge of particular languages, historical, cultural or historical contexts can be dispensed with.

Given this *Vorverständnis*, the historian may proceed to establish what in general terms constitutes the framework of a particular school. If we are to believe a recent statement by Newmeyer (1984: 123), Transformational Generative Grammar (henceforth: TGG) follows the tradition of 'autonomous linguistics' of the Neogrammarians, "all structuralist approaches to language", which would include the Bloomfieldians as well (though this admission might not go well with Newmeyer's earlier attempts to suggest discontinuity between the Bloomfieldian and the Chomskyan framework). Since most of us know what TGG stands for in terms of the general outlook on language and linguistics, I need not expatiate on this here. Instead let us inspect some of the claims made in Newmeyer's book of 1980.

1.2 Newmeyer's *Linguistic Theory in America* constitutes a bold attempt to make us believe not only that there was a revolution in linguistics marked by the publication of Chomsky's *Syntactic Structures* (1957), but that it was in fact preceded by his huge 1955 convolute entitled 'The Logical Structure of Linguistic Theory', even though it was made available in print only twenty years later. Newmeyer also wants us to believe that the revolution took place in the domain of syntax, though he presumably did not mean to exclude

other areas of linguistic study from the triumphal march of TGG depicted in his book.[2]

That linguists of the late 1950s did not feel, contrary to Newmeyer's claims, that Chomsky was about to revolutionize linguistics may be illustrated by citing from Carl Voegelin's 1958 review of *Syntactic Structures*. Interestingly enough, in Newmeyer's book Voegelin is referred to as one of those early establishment scholars who recognized that *Syntactic Structures* would lead to 'a Copernican revolution' (Newmeyer 1980:19). Before quoting from Voegelin's review, let us remember that Voegelin had been a long-time friend and collaborator of Zellig Harris's, Chomsky's teacher, and that he was well disposed toward Chomsky. Voegelin (1958:229) writes:

> ... immediately after reading Chomsky but before writing this review — I formed a rather strong positive impression, and developed an equally strong negative bias. On the positive side, I had the initial impression that, from the point of view of studying languages of the world, transforms in syntax are important for analysis of syntax. On the negative side, I would not accept the strategy of criticism adopted by Chomsky and his explicator [i.e., Robert B. Lees in his 'review' of Chomsky's book (Lees 1957)] — putting the burden of justification on anyone who would maintain the validity of pre-transform grammar. Some would (almost) accept this; thus, one of my western friends says that Chomsky (almost) convinced him that morphemics was a poor old dead dog. And if transform grammar also persuades linguists to relegate phonemics to a preliminary stage of analysis (called 'discovery'), and to operate in final analysis (called 'description') exclusively with morphophonemics, it will have accomplished a Copernican revolution.

To be sure this sounds much less like an endorsement of 'transfer grammar' (note the term!) as leading to a Copernican revolution in syntax. Moreover, and nothing of this will be found in Newmeyer's book, Voegelin, in his review, returns to this question of 'revolution' in linguistics. He argues that 'transfers in syntax' are not new, and refers to the model as having been *invented* by *Harris*, at the same time characterizing Chomsky as it "most articulate developer" (Voegelin 1958:230n.1). This is of course what Chomsky himself — though only once — acknowledged in the preface to his unpublished doctoral dissertation, where he says:

> This study was carried out in close collaboration with Zellig Harris, to whom I am indebted for many of the fundamental underlying ideas. (Chomsky 1955:iii)

We know that Chomsky subsequently never tired of distancing himself from Harris' linguistic theories. But Chomsky's early acknowledgement should help at least refute the suggestion made by Newmeyer (1980:34) that Harris never bothered to read what Chomsky wrote, either his 1951 Master's thesis on Morphophonemics of Modern Hebrew or his 1955 dissertation on Transformational Analysis.

To return to the question that Voegelin asked in his review, namely, "Will they [i.e., Chomsky and Lees] start a Copernican revolution in linguistics?". Voegelin replies to this hypothetical question in a footnote, which reads:

> A palace revolution, perhaps, in contrast to the interdisciplinary revolutions plotted by David Bidney, Six Copernican revolutions, Explorations I: Studies in Culture and Communication pp.6-14 (1953). (Voegelin 1958:230n.2)

Needless to say, this quotation (and the preceding one) never found its way into Newmeyer's book.

It is clear from this example that the historian of American linguistics will have to examine carefully the sources from which Newmeyer and others quote in their attempt to score a point in favour of their argument. Indeed, there are quite a number of distortions of fact to be found in Newmeyer's book, the less said about them the better. Unfortunately, however, this book is the prescribed text for linguistics students in many places and must, for this reason at least, be taken more seriously than it deserves (cf. Hall's [1981] review of the book).

For instance, Newmeyer has claimed that Chomsky was invited to participate in the Third Texas Conference on Problems of Linguistic Analysis in English, May 1958, because establishment linguists intended 'to snuff out transformational grammar' and to *confront* the young Chomsky (this is the term Newmeyer used in reviewing an earlier version of my 1983 paper when it first was submitted to the editor of *Language*), where in fact the proceedings make it quite clear, as Newmeyer himself puts it that "we can see [here] linguistic history documented as nowhere else — Chomsky, the *enfant terrible*, taking on some of the giants of the field and making them look rather confused students in a beginning linguistics course." (To this, I would like to insert at least a demurrer, in that the published proceedings [Hill 1962] do not refer to any 'giant' in the field; the most important theorists of the Bloomfieldian school, Hockett, Harris, and Bloch, were not present, for example.)

1.3 In his review of Newmeyer's book, John Fought (1982:317) noted that Newmeyer's treatment of Harris' role in the development of TGG was insufficient and faulty, without elaborating on this matter, however. It is true that Newmeyer, quite in line with his attempt to emphasize the 'revolutionary' nature of Chomsky's proposals, virtually eliminates the question of Harris' influence on Chomsky, suggesting instead that Chomsky did just what he was dissuaded to do by his teacher. Typically, Newmeyer (1980:37) glosses over Z. Harris' 1954 paper entitled "Transfer Grammar", from which he merely cites the following statement out of context, and commenting that this observation (and similar observations made by Charles F. Hockett in a well-known paper of the same year[3]) "clashed head-on with their usual assumptions" and that "it is [therefore] not surprising that they did not develop them":

> A grammar may be viewed as a set of instructions which generates the sentences of the language. (Harris 1954:260)

What the reader is not told in Newmeyer's book is that Harris was dealing with theoretical and methodological problems of translation and the transference of phonological, morphological, and syntactic structures from one language to another, and that Harris used the term 'transfer grammar' quite wisely. However, Harris makes it clear in a footnote on the same page that he was aware of the difference between 'transfer grammar' and 'transformational grammar', when he observed:

> Even in the grammar of a single language by itself, it is possible to generate some of the sentences of the language out of other sentences of the same language by particular grammatical transformations. However the conditions for these transformations are quite different from those that carry us from the sentence of one language to those of another. (Harris 1954:260n.2)

This quotation no doubt suggests a much clearer line of development of transformational grammar from Harris to Chomsky.[4] A closer analysis of Harris' 1954 and a number of his preceding papers on discourse analysis (not mentioned by Newmeyer) as well as his 1951 *Methods in Structural Linguistics* (completed early in 1947) would bear out this continuity of development and refute the claim to a definite break with the past made by Newmeyer and many adherents of the transformationalist school.

1.4 These few examples cited above (1.2 and 1.3) should draw our attention to the technique of selection, omission, and distortion of facts used by those who want to prove a particular view of history. Newmeyer's book is indeed a good example of this procedure. Let me illustrate this a bit further, especially with regard to selection and omission.

For instance, Newmeyer left out the treatment of phonology in his story of TGG; lack of competence in this field might have been a major reason for this omission. However, one may wonder whether inclusion of phonology might not have undermined Newmeyer's basic tenets according to which the revolution had taken place in syntax. We have noted already that Voegelin, in his 1958 review, could foresee a revolution in morphophonology (and probably also in phonology). Indeed, as I have tried to illustrate in my 1983 paper, the break between the Bloomfieldians and Chomsky (so much desired by the strategists at MIT eager to fulfil at least one of Kuhn's criteria for a scientific revolution) came about once Chomsky, Halle, and their collaborators had begun attacking the phonemic theory of the Bloomfieldian descriptivists, i.e., an area of investigations where these felt that they had made an important contribution (cf. Koerner 1983:158 for amplification). It is my claim that if there was anything resembling a revolution during the 1960s — and not during the 1950s — it was an atmosphere of revolutionary turmoil created by what Murray (1980) termed a 'rhetoric of revolution', and this largely in the field of phonology.

I do not wish to repeat by what means the atmosphere of revolution in linguistics had in fact been created (cf. Koerner 1983:155-58); everyone in linguistics who is forty years or older will recall

instances of public debate at LSA meetings or other conferences where especially members of the older generation were attacked in the most impolite and often impudent manner, not to mention the use of the technique of the attackers who put the burden of proof or counter-proof on the other (which Voegelin had objected to in his 1958 review of *Syntactic Structures*; cf. the quotation in section 1.2 above), while at the same time making the most extreme claims for their own theories usually without providing evidence in their support. (It appears to me that the term 'abstract' in TGG jargon is most conveniently translated by 'not verifiable' by empirical means.)

One important document in the history of TGG generally overlooked, and probably intentionally left aside by Newmeyer, constitutes the 1962 debate on "The Advantages and Disadvantages of Transformation Grammar" held in the framework of the 13th Annual Round Table Meeting at Georgetown University, Washington, D.C., and published in the following year (Woodworth & DiPietro 1963:3-50). The discussion was chaired by Eric P. Hamp; Paul M. Postal was the main speaker. (Postal, although he was officially enrolled at Yale for his doctorate, actually worked at MIT's Laboratory of Electronics at the time, and served as a crusader for TGG since 1961, especially at the LSA summer and winter meetings.)

Anyone reading the 48-page proceedings of the debate will understand why Newmeyer has conveniently overlooked this important piece of historical evidence. To be sure, this encounter showed TGG not winning in the way that Newmeyer depicted the march of the revolution in linguistics: On every theoretical point or claim made by Postal at the symposium he was knocked down very effectively by Paul Garvin, a scholar whose career never quite came off, possibly, if not probably, because he saw too early the flaws of transformational theory and could not be won over to the TGG camp. It is certainly not surprising that Garvin's name does not appear even once in Newmeyer's 250-page account of American linguistics.

From the exchange between Postal and Garvin, let me present just an excerpt to illustrate how far transformationalists may go if pressed for explanations. Postal had just outlined what a generative grammar could do in the analysis of sentences of a given language, when Garvin stated his objections (Woodworth & DiPietro 1963:36-37):

> *MR. GARVIN*: I would disagree for one very serious reason. One way of verifying the validity of a theory is by writing a recognition routine based on this allegedly correct, and allegedly *only* correct grammar, and then by seeing whether it indeed does "recognize." I deliberately mentioned the *Washington Post and Times Herald*, because to a large number of speakers of English, it contains grammatical sentences.
> *MR. POSTAL*: Most of the sentences would not be sentences at all.
> *MR. GARVIN*: What a preposterous claim! On behalf of the *Washington Post* I protest! This is a very common brand of English.
> *MR. POSTAL*: I would say it is a very common brand on non-English, that is, not complete English sentences.
> *MR. GARVIN*: Then, of course, you are in the marvelous position

> where whenever you can't analyze something you simply say, "this is not English."

Observers of the linguistic scene of the 1960s and warly 1970s will no doubt remember the debate over 'grammaticality' and related notions, and realize that Garvin's hunches were correct.

There are many more instances of omission as well as commission to be found in Newmeyer's (1980) account; the more one looks, the more one finds. I shall mention just one area in which much more light is required than what Newmeyer offers us; I am referring to events surrounding the preparation and actual tenure of the Ninth International Congress of Linguists held in Cambridge, Massachusetts, in August 1962, perhaps the most important event in the history of the success of TGG, to which Newmeyer devotes barely twelve lines in his book (1980:51).

1.5 One would like to know more about the background that led to the International Congress being held for the first time in its history outside Europe, the role of Roman Jakobson in this, and about the manoeuverings by Morris Halle and others at MIT that led to the eventual exclusion of Joshua Whatmough of Harvard from the decision-making process. (By the way, Whatmough is not even mentioned once in Newmeyer's book; like Garvin and others, he must have been regarded as a non-person by the self-appointed historian of TGG.) One would also like to know what motivated Zellig Harris, who originally was supposed to present a plenary session paper, to forego this distinction and have the then rather unknown young Noam Chomsky appear in his place. But John Gumperz, a visiting fellow at MIT at the time, for instance recalls that in spring and summer 1962, prior to the tenure of the International Congress, he was "watching Morris Halle plot as if he were Lenin in Zürich" (personal communication).

I am most certain that there are many more details that need to be investigated as they would shed an interesting light on the strategies of attack and success developed and pursued by the champions of TGG. To be sure, those pieces of information will be suppressed by people like Newmeyer who want to demonstrate that it was in the main the superiority of a linguistic theory which led to a changing of the guard in North American linguistics, and that a scientific revolution was taking place, not a 'palace revolution', as Voegelin suggested in 1958, or a 'coup d'état', as Raimo Anttila (1975) characterized it later.

In an effort to explain what really happened in American linguistics during the late 1950s and the 1960s, what means, including rhetorical ones, were employed to prop up the 'eclipsing stance' (Voegelin & Voegelin 1963:12-13) Chomsky had embarked on early in his career, and to make many young people of the 1960s believe that they were witnessing a revolution of which they should be a part.

2.0 *Concluding remarks*

I suggest that there are many areas that require careful investi-

gation before an adequate history of American linguistics can be written. Limitations of time allow only for a few remarks about what I believe would have to be done, and probably rather soon, as the number of participants in linguistics during the 1940s and '50s is diminishing every year, not to mention the fact that people do forget what they have seen, read, and heard as they grow older.

2.1 To begin with, I would like to urge that more interviews with, and autobiographical accounts by, scholars, especially of the older generations, be undertaken, similar to what was done at the 1979 Charlotte Conference (cf. Davis & O'Cain 1980). It would be rather difficult to obtain a fairly accurate picture of where certain linguists got their ideas from and what led to the success of TGG, if we were to interview only those who have a vested interest in the maintenance of a particular view of the matter. So, while not wanting to exclude interviews with Chomsky, Halle, Lees, and others on the development of linguistic ideas during the 1950s and 1960s, I believe that the frequently diverging views of those who lived the period, but did not uncritically subscribe to the tenets of TGG should be documented.

2.2 Also it appears to me that the entire intellectual and social atmosphere of the 1950s, especially in the East Coast of the United States, be reconstructed as much as this is possible, since linguistic ideas cannot be assumed to have developed in a vacuum but in a particular setting and under special conditions. In other words, it would not suffice to reread the linguistic literature preceding the appearance of *Syntactic Structures* (although this would have to be an important part of the job), but also study the literature of the period on information theory (e.g., Shannon & Weaver 1949; cf. Hockett 1953), neurology (e.g., Lashley 1951), and especially work done on computing machines and related theories by Alan Mathison Turing (1912-1954), John von Neumann (1903-1957), and others — cf. the importance of machine translation among linguists at the University of Pennsylvania (e.g., Harris 1954) and at MIT (e.g., Locke 1955).

2.3 Third, and this should be the most important part of the enterprise, these findings would have to be brought together in a series of in-depth studies by a group of authors or by individual researchers, at any rate in book form and not, for example, in the form of reviews and minor papers appearing in linguistics journals, not only because they might not be accepted by the many TGG-controlled North American journals, but also because those writings are quickly forgotten (in most instances at least), once the next issue of a periodical has appeared on the library shelf. In other words, what is needed are monograph-length accounts, well-studied rebuttals of current whig histories of TGG, as books are more likely to be around for a while.

No doubt, all this requires considerable effort. But as a German proverb goes: *Ohne Fleiß, kein Preis* — without hard work nothing is won.*

[* The English proverb "No pains, no gains" appears less apt here.]

NOTES

1) At times it appears that only by attacking basic premises of Chomsky's linguistic theory in public that many of those who claim not to be part of the 'Chomskyan paradigm' may identify themselves by rushing to the defense of their former master and his school.

2) We may recall that 'Generative Semantics', for example, is treated as heresy in Newmeyer's book, basically the only area where James McCawley and Newmeyer do not agree, though McCawley, in personal correspondence, objects to my view that he belongs to the transformational school.

3) The other paper mentioned by Newmeyer is Hockett's famous "Two Models of Grammatical Description" paper (Hockett 1954), on which consult Koerner (1983:160-61). Voegelin & Voegelin (1963: 25) indicate that Hockett circulated mimeographed copies of this paper as early as 1951, thus suggesting that essential ideas of 'generative grammar' had been available to Chomsky at a very early stage of his career.

4) Daladier (1980), although affirming (without supplying the proper references) that Chomsky had taken the distinction between 'acceptability' and 'grammaticality' from Harris (p.59n.1), found little else the two theorists had in common, quite in line of what Chomskyites maintain.

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LINGUISTIC PROGRESS AND PROGRESS IN LINGUISTICS:

Dr. Johnson's 'Dictionary of the English Language'.

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0. Introduction

Progress is a good thing and most people seem in favour of it - even linguists. We do not have to look very far in booksellers' catalogues or linguistic bibliographies before we encounter a collection of linguistic articles entitled - or at least subtitled - "Progress in Linguistics", thus advertising to the world that the book is a new and good thing. This is harmless, because we all know that it ain't necessarily so. Stagnation is the death of science and it is therefore understandable that we all would like to contribute to the progress of science. The trouble is, that we do not really know what it is. The dictionary does not help us much further: it defines 'progress' as 'advance toward perfection or a higher state', but the real problem is how to recognise an advance. 'Progress' is simply not a technical term, it is all connotation and little denotation, all flesh and little bone. In this deplorable state of affairs, scientists - and linguists in particular - would be well advised to use the term more sparingly and more discriminately.

After what has been said it may seem more than daring to speak on a subject which contains the term progress twice in its title and I would hasten to explain what I am about to discuss. The question is whether there is any sense in which the term 'progress in linguistics' can be profitably used without being a mere term of praise for a pet theory? The method is to analyse such achievements in linguistics as linguists unanimously consider to be contributions to the progress of their science. Since impartiality seems to increase with time, I propose to examine more closely a work that has stood the test of time: Dr. Johnson's (1709-1784) Dictionary of the English Language (1755). If lexicography is part of linguistics, and I assume it is, then Dr. Johnson, besides being a great essayist and critic, is also a great linguist, for, as Noyes (1955:175) writes:

> From a perspective of two hundred years we see Johnson's Dictionary as the first great achievement in English lexicography on an eminence comparable to that later attained by Webster's American Dictionary of the English Language and by the Oxford English Dictionary.

The choice, I hope, is uncontroversial. The first two questions I should like to discuss are questions of historiography:

- What precisely was Johnson's contribution?
- How was this achievement brought about?

The third question is:

- What, if anything, can we learn from this about progress in linguistics?

1. Dr. Johnson's contribution

Dr. Johnson's contribution to lexicography is threefold: it concerns

- the concept of the dictionary
- the theory of lexicography
- the practice of lexicography.

In his Plan of an English Dictionary (1747) Johnson (1792 II:6-7) remarks that "the title which I prefix to my work has long conveyed a very miscellaneous idea, and they that take a dictionary into their hands, have been accustomed to expect from it a solution of almost every difficulty". Today it is easily forgotten that the concept of a monolingual dictionary did not simply spring into existence but that it took centuries to evolve. Johnson's Dictionary " was the culmination of 150 years of experimentation and earnest effort" (Noyes 1955:155). This process of gestation has been aptly traced by Hayashi (1978), and I shall therefore merely outline the most important decisions Johnson had to make before he could begin with the actual work.

The first question to be decided on was which words should be included in the dictionary and which excluded. Until the 18th century dictionaries were more or less comprehensive lists of hard words with explanations, the dominant motive of the user being the enlargement of his wordpower. Furthermore, the term 'dictionary' was applied to works of an encyclopaedic nature used to increase the reader's general knowledge, but also for entertainment, e.g. The Ladies Dictionary: Being a General Entertainment for the Fair Sex published by John Dunton in 1694.

In the course of the 18th century the idea of the hard word dictionary was abandoned and lexicographers vied with each other to include an ever larger number of words. As Hayashi (1978:90) points out, the typical dictionaries of the Augustan age claim to be collections of all the words in the language, including the terms used in "every art, science, faculty, or trade" and thus have not completely abandoned the encyclopaedic principle. Johnson also prides himself on having added a large number of words not found in previous dictionaries. But in the main these are not technical terms. For a while he seems to have been an advocate of the encyclopaedic dictionary, but during his work on the dictionary his attitude changed markedly.

In his Preface Johnson (1792 II:56) reports that when he first engaged in his work he "resolved to leave neither words nor things unexamined", that he intended "to pierce deep into every science, to enquire the nature of every substance" of which he inserted the name, so that his book "might be in place of all other dictionaries whether appellative or technical". These "dreams of a poet doomed at last to wake a lexicographer" must have been dreamt before he composed his Plan in 1747. There he (1792 II:20) mentions that he was, for a while, uncertain which approach to take , "whether, under the word barometer, instead of being satisfied with observing that it is an instrument to discover the weight of air, it would be fit to spend a few lines upon its invention, construction, and principles". He decides against the encyclopaedic approach in definition as well as in his choice of vocabulary.

"The exact and pure idea of a grammatical dictionary would demand only the inclusion of words and phrases used in the general intercourse of life, or found in the works of those whom we commonly stile polite writers ... without including terms of particular professions" (1792 II:6). If he departs from this ideal he does so for purely practical reasons: a dictionary not only designed for critics, but for popular use "should comprise, in some degree, the peculiar words of every profession" (1792 II:8). Indeed, the Dictionary admits "terms of art ... such as could be found either in books of science or technical dictionaries"(1792 II:42). But in the Preface as in the Plan, Johnson (1792 II:41) stresses that his "design was a dictionary, common or appellative", by which criterion he omits all proper names and words derived from them. Thus, Johnson may be said to have introduced - at least in theory - the distinction between a 'genuine' English dictionary and an encyclopaedia.

The second decision concerns the time range of the works from which to collect the vocabulary. His purpose, says Johnson, was not to admit the testimony of living authors, although he himself allows that he did not always keep to this intention. His preferred authors are those who wrote from the Elizabethan times up to the Restoration. Thus his dictionary is neither contemporary nor historical in intention. In actual fact, it is well known that he overstepped these boundaries on both sides (Fleming 1954).

Johnson's main contribution to lexicographical theory seems to me the theory of definition he outlines in Plan and Preface with a clarity unsurpassed in any other dictionary. Defining is to him the most difficult task of a lexicographer. Definitions must satisfy the criteria of brevity, fulness and perspicuity (1792 II:19). Brevity and fulness are in a sense contradictory demands. 'Fulness' tends towards the "real definition" of philosophers as well as the encyclopaedic approach, brevity towards the "verbal" or "logical" definition - "the explication

of the essence of a thing by its kind and difference" (1755: Dict. entry 'definition'). According to the testimony of the Preface, Johnson must have decided in favour of brevity, so much so that he "resolved ...to limit every idea by a definition strictly logical", i.e. a definition by genus and differentia. But in the course of his work it emerged very soon that such definitions were not always practicable.

He names 3 criteria which an explanation must satisfy (1792 II:45-50; cf.also 19-26):

(1) exchangeability: "the explanation and the word explained should always be reciprocal"
(2) clarity: "to explain requires the use of terms less abstruse than that which is to be explained"
(3) brevity

The first difficulty in definition arises from these criteria themselves and the "necessity of explaining the words in the same language" (1792 II 19;45).

- Definition by synonyms is not always possible because "few ideas have many names". It is, moreover, ruled out by criterion of exchangeablity, for "words are seldom synonimous".

- Definition by paraphrase proves impossible in the case of simple ideas because "simple ideas cannot be described".

- Some words cannot be defined in simpler terms as they are "too plain to admit a definition" and "the easiest word, whatever it be, can never be translated into one more easy". Such definitions necessarily violate the criterion of clarity.

- Some definitions are unavoidably circular.

A second difficulty arises not from the nature of definition, but from the nature of the living language:

> Some senses however there are, which, though not the same, are often so nearly allied, that they are often confounded. Most men think indistinctly, and therefore cannot speak with exactness.(1792 II:57)

For instance, some English verbs have such a loose and indistinct signification that "it is hard to trace them through the maze of variation".

> If of these the whole power is not accurately delivered, it must be remembered, that while our language is yet living, and variable by the caprice of every one that speaks it, these words are hourly shifting their relations, and can no more be ascertained in a dictionary, than a grove, in the agitation of a storm, can be accurately delineated from its picture in the water.(1792 II:46-47)

The third difficulty in definition arises from an insufficient knowledge of things.

Some words referring to things are difficult to explain "because the nature of things is unknown, or the notion unsettled and indefinite, and various in various minds" (1792 II:45) and the meaning of the words referring to them changes as our knowledge advances. It can be shown (Schreyer 1971; Downes 1962) that Johnson's theory of definition is based on a theory of language largely influenced by John Locke. Words are signs of ideas and thus only mediately related to things and sometimes not at all. The real essence of things will always be unknown; what we know is the nominal essence, those complex ideas the mind produces by combining the simple ideas arising through the impression of the senses. If these complex ideas attached to a word are different in different minds it is obviously impossible for the lexicographer to provide an adequate definition. Thus Johnson complains: "Definition is indeed not the province of man; everything is set above or below our faculties" (1958 ff. V:344).

Johnson is very much alive to the fact that in the course of the history of a language the meanings denoted by a form may change, develop and multiply. Thus "in the general and popular language" (1792 II:20) the several senses of a word must be arranged in some order: natural or primitive signification - consequential or accidental meaning - metaphorical sense - poetical sense - familiar sense - burlesque sense - peculiar sense. In the Preface (1792 II:43) Johnson states his purpose and the resulting problems in a famous passage:

> In every word of extensive use, it was requisite to mark the progress of its meaning, and shew by which gradations of intermediate sense it has passed from its primitive to its remote and accidental signification; so that every foregoing explanation should tend to that which follows, and the series be regularly concatenated from the first notion to the last. This is specious but not always practicable; kindred senses may be so interwoven, that the perplexity cannot be disentangled, nor any reason be assigned why one should be ranged before the other. When the radical idea branches out into parallel ramifications, how can a consecutive series be formed of senses in their nature collateral?

Johnson recognises that meanings have to be arranged according to an ordering principle. It seems, however, that he does not clearly distinguish between a semantic or logical and a temporal or historical principle, owing, perhaps, to the fact that he is neither compiling a historical dictionary of English (although he includes etymology) nor a dictionary of current English.

As we have seen, Johnson is well aware of all the shortcomings of his performance and he looks for a remedy in the citations from authorities appended to his definitions: "The solution of all difficulties and the supply of all defects must be sought in the examples, subjoined to the various senses of each word, and ranged according to the time of their authors" (1792 II:50). The reason for this solution is to be found in Johnson's principle of selection: he gives preference to those citations which allow a contextual determination of the meaning of the term to be illustrated. The introduction of quotations and their temporal arrangement constitute a great contribution to lexicography - an achievement specifically paid tribute to in the other great English dictionary: In the historical introduction to the OED (XIV) the editors state laconically that "the example of Johnson ... had shown clearly that the citation of authorities for a word was one of the essentials for establishing its meaning and tracing its history".

Johnson's third great contribution to lexicography is, of course, the finished work itself. In only seven years he completed virtually single-handed a dictionary which dominated English lexicography for seventy-five years. "With little assistance of the learned, and without any patronage of the great" the vocabulary of the English language had been digested in a book which invites comparison with the dictionaries of the French and Italian academies. The comparison was, of course, drawn: the Gentleman's Magazine, for instance, concluded its review with the words that honour should not be withheld from the man "who alone has effected in seven years, what the joint labour of forty academicians could not produce to a neighbouring nation in less than half a century" (Noyes 1955:177). Johnson himself, in his Preface did not quite succeed in concealing his pride. Always his own best critic, he reminds his reader: "In this work, when it shall be found that much is omitted, let it not be forgotten that much likewise is performed" (1792 II:66).

2. Johnson's motives and aims in writing the Dictionary

The gentle reader (or listener) may have been aware that in describing what seem to me Johnson's main achievements in the compilation of his Dictionary I have taken great pains to support my statements with quotes from the Plan and Preface of that work. Nevertheless I have written something that is not far from a Whig history, for I have omitted most of the points less

compatible with our modern view of lexicography. Leaving out certain passages from Plan and Preface and focussing on what we think valuable saves an awful lot of explaining but it only leads to half-truths. Let us take a few examples:

Why does Johnson limit his material to authors who wrote between the time of Elizabeth and the Restoration? The answer is that he considers the works of these writers as "the wells of English undefiled"(1792 II:52).

Why does he not to regret the omission of many terms of art and manufacture which could not be found in books? Because these words do not form "the durable materials of language": to him they are "fugitive cant, which is always in a state of increase or decay" (1792 II:59) und thus unworthy of preservation.

Why does he include "the words which our authors have introduced by their knowledge of foreign languages, or ignorance of their own, by vanity or wantonness, by compliance with fashion or lust of innovation ... though commonly only to censure them, and warn others against the folly of naturalizing useless foreigners to the injury of the natives" (1792 II:42). Does this not sound strange from the pen of a man who claims that he is only registering the language?

These and many other statements indicate that Johnson's Dictionary cannot properly be called a descriptive or historical dictionary of English, nor was it Johnson's intention to write such a work. His avowed aim was to perform what most of his contemporaries - and the advocates of an English Academy in particular - had demanded for decades, viz. "to preserve the purity, and to ascertain the meaning of our English idiom (1792 II:6). Johnson himself did not believe in an English Academy but he took it upon himself to do its work. His aims and motives were those of his time, and they were based on a specific view of linguistic progress in general and the progress of the English language in particular.

3. Linguistic progress

Johnson shares the view of many of his contemporaries that language is an 'artificial' acquisition of man, developed over a long period on a par with the the societal evolution of all the other arts and sciences. This view finds its most concise expression in one of his essays (1958 ff. II:196-7; Idler 63):

> The natural progress of the works of man is from rudeness to convenience, from convenience to elegance, and from elegance to nicety.
> Language proceeds, like everything else, thro' improvement to degeneracy.

Language is the dress of thought, and as the stock of our ideas increases, the vocabulary to express these ideas will also increase. The savages who were our ancestors were mostly concerned with the necessities of life and did not possess nor need many ideas. Consequently their vocabulary consisted only of "words of necessary or common use"(1792 II:33). In their thinking they did not make any nice discriminations and therefore they did not need a language to express these by. Thus the 'Saxon' language, Johnson (1755: History of the English Language, no pag.) conjectures, "having been always cursory and extemporaneous, must have been artless and unconnected without any modes of transition or involution of clauses". This situation began to change gradually when English began to be adapted to civil and religious purposes. But Johnson (1958ff. II:197) still characterises it as "artless and simple, unconnected and concise".

The second phase in the development of society is the period of convenience,which is characterised by the desire to improve what we would call the quality of life. Language develops pari passu with the complexity of society:

> ... as life begins to become more regulated, and property to become limited, disputes must be decided and claims adjusted; the differences of things are noted and propriety of expression becomes necessary. (1958 ff. II:196)

This marks the end of the childhood of language. The advent of Christianity in 570 produced "a certain degree of civility and learning", particularly as it introduced the art of writing. Three centuries later the English "had formed a language capable of expressing all the sentiments of a civilised people" (1755: History, no. pag.).

The period of elegance begins for the English language with the time of Gower, who showed his countrymen "that English might be exalted into poetry" (1955 ff. II:198). In this period, society develops a system of subordination which frees some individuals from the daily toil for subsistance. These individuals will go in search of "superfluous gratifications":

> ... the sciences are cultivated for ease and pleasure; to the arts now taught, emulation soon adds the art of teaching; and the studious and the ambitious contend not only who shall think best, but who shall tell their thoughts in the most pleasing manner. (1958 ff. II:196)

This is the beginning of the arts of rhetoric and poetry. The advent of printing multiplies the number of books, without which no polished language is possible. As politeness increases, the cultivation of the arts and sciences amplifies the vocabulary and refines the structure of the language. Nevertheless, the

period of elegance already contains the germs of decay. Linguistic progress is no longer determined by societal forces but by artificial needs which may easily lead to luxury, affectation and nicety in life as in language: "The passage is very short from elegance to luxury"(1958ff II:196).

In the view of Johnson and many of his contemporaries this is about the stage the English language has reached:

> From the time of Gower and Chaucer, the English writers have studied elegance, and advanced their language, by successive improvements, to as much harmony as it can easily receive, and as much copiousness as human knowledge has hitherto required. (1958 ff:198)

The Golden Age of the English language begins with the Elizabethans: from the authors of that period, claims Johnson (1792 II:53), "a speech might be formed adequate to all the purposes of use and elegance" and "few ideas would be lost to mankind, for want of English words, in which they might be expressed." Johnson does not tell us explicitly how long this Golden Age lasted. The Restoration seems to represent a certain caesura, but we can be certain that in his own time Johnson detects signs of a decay in English: "...every man now endeavours to excel others in accuracy, or outshine them in splendour of style, and the danger is lest care should soon pass to affectation" (1958 ff. II:198). One of these signs of decay - the one he seems to like least of all - is the "naturalization of useless foreigners", particularly when French:

> Our language, for almost a century ... has been gradually departing from its original Teutonick character and deviating towards a Gallick structure and phraseology, from which it ought to be our endeavour to recall it. (1792 II:52)

This brief outline of Johnson's theory of linguistic progress (cf. Schreyer 1971) will suffice to answer two of the questions asked above. Johnson's principle of selection limits his authorities to the zenith of the language. His ignoring the spoken language, apart from being traditional, is based on the conviction that the purest, most correct and elegant English is written English: note that it is the writers that are responsible not only for the improvement, but also for the decline of language.

But why does Johnson insert words he clearly disapproves of "only to censure them"? The answer is that Johnson wants more than simply to describe his language: his aim is to perform what the frequently proposed but never created Academy did not do, viz. to ascertain and fix the English language. If "our language is in perpetual danger of corruption" (1792 IX:215), if, indeed, signs of corruption are already recognisable, is it not

desirable to try and arrest this process of decline? Johnsons attitude towards English is therefore conservative. He finds English copious but without order and "energetick" but without rules. The reason is, that it has been "hitherto neglected, suffered to spread, under the direction of chance, into wild exuberance, resigned to the tyranny of time and fashion; and exposed to the corruptions of ignorance, and caprices of innovation" (1792 II: 32). Lord Chesterfield, in a preliminary puff for Johnson's Dictionary laments the "anarchy" of the language and the lack of a standard "for those to repair to, who might chuse to speak and write it grammatically and correctly" (Bolton 1966:124). The Dictionary was conceived to provide this standard. It was, therefore, necessarily prescriptive. Anomalies in a language, says Johnson (1792 II:33) must be tolerated "but every language has likewise its improprieties and absurdities, which it is the duty of the lexicographer to correct and proscribe".

4. Some animadversions on progress in linguistics

An unkind critic might call Johnson's attitude towards his language conservative, purist, prescriptive, chauvinist and totally unrealistic, in other words an attitude we find today in nearly every community of speakers, but not usually among linguists. Despite this criticism, it cannot and has never been denied that Johnson's Dictionary is a great achievement. What can we learn from this about progress in linguistics?

We might conclude that progress is blind and can consequently only be recognised from the lofty perspective of several centuries. This would, however, be too easy. On closer examination one can distinguish several theories which influenced Johnson's work and which, though connected, had a different impact. Johnson's theory of linguistic progress in general, and of the English language in particular, provided the motivation for his work. Pride in one's own language and the wish to conserve it for posterity are the result of this underlying theory: "We have long preserved our constitution, let us make some struggles for our language" (1792 II:64). Needless to say, if this theory of linguistic progress had not been shared by Johnson's contemporaries it is doubtful whether his dictionary would ever have been compiled or published.

At the same time this theory accounts for the many omissions and blunders, the neglect of the spoken language, the neglect of a large part of the vocabulary, the neglect of the current pronunciation, the neglect of the historical perspective and the purist approach to lexicography.

Johnson was, however, realistic enough to see that in order to create the desired standard it was imperative to first analyse the language, however mutilated his materials may seem to us. If you wish to be successful in prescribing how people should write, you must first find out how they are in fact writing. Thus Johnson's approach was both prescriptive and descriptive, and it seems to me that this descriptive approach, this adherence to 'custom', as he called it, the actual experience in the course of his lexicographical work, and last but not least, his Lockean theory of language (not discussed here), are responsible both for the further development of the idea of a dictionary, for his penetrating observations on definition, and, of course, for the achievement of Dictionary Johnson, as he was sometimes called.

I must leave it to the reader to pursue these thoughts further. For the moment it seems to me that in the discussion of the idea of linguistic progress it is heuristically promising to distinguish between such theories as motivate a 'progressive' achievement and such as determine it. Furthermore, it might be useful to distinguish between progress theoretical, methodological and cumulative. Progress in theory always implies a change in point of view, methodological progress provides a new way of approaching a subject, cumulative progress enlarges our knowledge of the same thing. These distinctions are, of course, in need of further elaboration, but they make us at least aware of the fact that the idea of progress definitely falls under the Johnsonian category "various in various minds".

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